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# ANNUAL REPORT

OF THE

# METROPOLITAN DISTRICT COMMISSION

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FOR THE YEAR 1925

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# CONTENTS

	PAGE
I. Organization and Administration . . . . .	1
Commission, Officers and Employees . . . . .	1
II. General Financial Statement . . . . .	1
III. Construction . . . . .	1
IV. Parks and Reservations . . . . .	2
V. Police Department . . . . .	3
VI. Rainfall and Consumption of Water . . . . .	3
VII. Special Investigations . . . . .	4
VIII. Other Reports . . . . .	4
Report of the Director of Parks . . . . .	4
Report of the Director and Chief Engineer of Park Engineering . . . . .	7
Parkways . . . . .	8
Reservations . . . . .	11
Bridges and Locks . . . . .	12
General . . . . .	13
Data relating to Metropolitan Park System . . . . .	14
Report of Director and Chief Engineer of Water Division . . . . .	18
Organization . . . . .	18
Metropolitan Water District and Works . . . . .	18
Construction . . . . .	18
Pumping Equipment, Northern High Service . . . . .	18
Weston Aqueduct Supply Mains . . . . .	18
Low Service Pipe Lines . . . . .	19
Northern High Service Pipe Lines . . . . .	19
Southern High Service Pipe Line . . . . .	20
Improvement of Service in Belmont and Watertown . . . . .	20
Meters and Connections . . . . .	20
Improving Wachusett Watershed . . . . .	20
Authorized Extension of Works . . . . .	20
Maintenance . . . . .	20
Precipitation and Yield of Watersheds . . . . .	20
Storage Reservoirs . . . . .	21
Wachusett Reservoir . . . . .	21
Sudbury Reservoir . . . . .	23
Framingham Reservoir No. 3 . . . . .	23
Framingham Reservoirs Nos. 1 and 2, Ashland, Hopkinton and Whitehall Reservoirs . . . . .	23
Farm Pond . . . . .	24
Lake Cochituate . . . . .	24
Aqueducts . . . . .	24
Wachusett Aqueduct . . . . .	24
Sudbury Aqueduct . . . . .	25
Weston Aqueduct . . . . .	25
Cochituate Aqueduct . . . . .	25
Protection of Water Supply . . . . .	25
Clinton Sewage Disposal Works . . . . .	30
Forestry . . . . .	30
Hydroelectric Service . . . . .	31
Wachusett Service . . . . .	31
Sudbury Service . . . . .	32
Distribution Pumping Stations . . . . .	32
Distribution Reservoirs . . . . .	34
Distribution Buildings and Grounds . . . . .	35
Distribution Pipe Lines . . . . .	35
Consumption of Water . . . . .	36
Installation of Meters on Service Pipes . . . . .	38
Water supplied from Metropolitan Water Works and used out- side of Metropolitan Water District . . . . .	38
Filtration of Water . . . . .	38
Water Works Statistics . . . . .	38



Report of Director and Chief Engineer of Sewerage Division . . . . .	8
Organization . . . . .	8
Metropolitan Sewerage Districts . . . . .	39
Areas and Populations . . . . .	39
Metropolitan Sewers . . . . .	40
Sewers purchased and constructed and their Connections . . . . .	40
Construction . . . . .	43
North Metropolitan Sewerage System . . . . .	43
Mill Brook Valley Sewer — Arlington . . . . .	43
Mill Brook Valley Sewer — Section 78 . . . . .	43
Mill Brook Valley Sewer — Section 79 . . . . .	43
Maintenance . . . . .	44
Scope of Work and Force employed . . . . .	44
Deer Island Pumping Station . . . . .	44
East Boston Pumping Station . . . . .	45
Charlestown Pumping Station . . . . .	45
Ward Street Pumping Station . . . . .	45
Nut Island Screen-house . . . . .	45
Gasolene in Public Sewers . . . . .	45
Data relating to Areas and Populations contributing Sewage to Metropolitan Sewerage System . . . . .	46
North Metropolitan System . . . . .	46
South Metropolitan System . . . . .	47
Whole Metropolitan System . . . . .	48
Pumping Stations . . . . .	49
Capacities and Results . . . . .	49
North Metropolitan System . . . . .	49
South Metropolitan System . . . . .	50
Metropolitan Sewerage Outfalls . . . . .	51
Material intercepted at the Screens . . . . .	51
Financial Statement . . . . .	52
Parks Division . . . . .	52
Water Division . . . . .	72
Sewerage Division . . . . .	77
Appendix No. 1. — Contracts relating to the Metropolitan Parks Division made and pending during the Year 1925 . . . . .	84
Appendix No. 2. — Contracts relating to the Metropolitan Water Works made and pending during the Year 1925 . . . . .	86
Appendix No. 3. — Tables relating to the Maintenance of the Metropolitan Water Works . . . . .	91
Table No. 1. — Monthly Rainfall in Inches at Various Places on the Metropolitan Water Works in 1925 . . . . .	91
Table No. 2. — Rainfall in Inches at Chestnut Hill Reservoir in 1925 . . . . .	92
Table No. 3. — Wachusett System. — Statistics of Flow of Water Storage and Rainfall in 1925 . . . . .	94
Table No. 4. — Sudbury System. — Statistics of Flow of Water Storage and Rainfall in 1925 . . . . .	95
Table No. 5. — Cochituate System. — Statistics of Flow of Water, Storage and Rainfall in 1925 . . . . .	96
Table No. 6. — Sources from which and Periods during which Water has been drawn for the Supply of the Metropolitan Water District . . . . .	97
Table No. 7. — Average Daily Quantity of Water flowing through Aqueducts in 1925 by Months . . . . .	98
Table No. 8. — (Meter Basis) Average Daily Consumption of Water by Districts in Cities and Towns supplied by the Metropolitan Water Works in 1925 . . . . .	99
Table No. 9. — (Meter Basis) Average Daily Consumption of Water in Cities and Towns supplied by Metropolitan Water Works in 1925 . . . . .	100



Appendix No. 3 — *Concluded*

PAGE

Table No. 10. — Chemical Examinations of Water from the Wachusett Reservoir, Clinton . . . . .	103
Table No. 11. — Chemical Examinations of Water from the Sudbury Reservoir . . . . .	104
Table No. 12. — Chemical Examinations of Water from Spot Pond, Stoneham . . . . .	104
Table No. 13. — Chemical Examinations of Water from Lake Cochituate . . . . .	105
Table No. 14. — Chemical Examinations of Water from a Tap at the State House, Boston . . . . .	105
Table No. 15. — Chemical Examinations of Water from a Faucet in Boston, 1898–1925 . . . . .	106
Table No. 16. — Number of Bacteria per Cubic Centimeter in Water from various Parts of the Metropolitan Water Works, 1898–1925 . . . . .	106
Table No. 17. — Colors of Water from Various Parts of the Metropolitan Water Works in 1925 . . . . .	107
Table No. 18. — Temperatures of Water from Various Parts of the Metropolitan Water Works in 1925 . . . . .	108
Table No. 19. — Length of Metropolitan Water Works Main Lines and Connections and Number of Valves set in Same, December 31, 1925 . . . . .	109
Table No. 20. — Length of Metropolitan Water Works Hydrant, Blow-off and Drain Pipes, December 31, 1925 . . . . .	109
Table No. 21. — Length of Metropolitan Water Works Main Lines and Connections and Water Pipes Four Inches in Diameter and Larger in the Several Cities and Towns supplied by the Metropolitan Water Works, December 31, 1925 . . . . .	110
Table No. 22. — Number of Service Pipes, Meters, Per Cent of Services metered, Fire Services, and Fire Hydrants in the Several Cities and Towns supplied by the Metropolitan Water Works, December 31, 1925 . . . . .	111
Table No. 23. — Elevation of the Hydraulic Grade Line in Feet above Boston City Base for each Month at Stations on the Metropolitan Water Works during 1925 . . . . .	112
Appendix No. 4. — Contracts made and pending during the year 1925—Sewerage Division . . . . .	114
Appendix No. 5. — Financial Statement presented to the General Court on January 19, 1926 . . . . .	117



# REPORT OF THE METROPOLITAN DISTRICT COMMISSION

*To the Honorable the Senate and House of Representatives of the Commonwealth of Massachusetts in General Court assembled*

The Metropolitan District Commissioner has already presented to your Honorable Body an abstract of the account of the receipts, expenditures, disbursements and liabilities of the Metropolitan District Commission for the fiscal year ending on November 30, 1925, and now, in accordance with the provisions of section 100 of chapter 92 of the General Laws, presents a detailed statement of its doings for the calendar year ending on December 31, 1925.

## SIXTH ANNUAL REPORT

### I. ORGANIZATION AND ADMINISTRATION

#### COMMISSION, OFFICERS AND EMPLOYEES

The term of office of George B. Wason expired on November 30, 1925, and no appointment or reappointment has as yet been made to fill the vacancy. The membership of the Commission therefore remains the same as in the preceding year: Davis B. Keniston, Commissioner; Frank A. Bayrd, Frank G. Hall, William H. Squire and George B. Wason, Associate Commissioners. Frank G. Hall is Director of Parks, John R. Rablin, Director of Park Engineering, William E. Foss, Director of the Water Division and Frederick D. Smith, Director of the Sewerage Division.

George Lyman Rogers has continued as secretary and the following as chief engineers: of parks, John R. Rablin; of water, William E. Foss; of sewerage, Frederick D. Smith.

The maximum number of employees during the year was 1,583, divided as follows: general offices, 24; parks, 951; water, 393; sewerage, 215.

In this tabulation of employees the police are included under parks, although they give considerable protection to portions of the water system.

### II. GENERAL FINANCIAL STATEMENT

*Year ending November 30, 1925*

Expenditure for construction . . . . .	\$2,835,231 03
Expenditure for maintenance . . . . .	3,185,092 02
Total expenditure . . . . .	6,020,323 05
Unexpended balance, maintenance appropriations . . . . .	611,148 23
Serial bonds issued . . . . .	2,355,000 00
Serial bonds paid . . . . .	306,243 75
Loan notes issued . . . . .	1,800,000 00
Loan notes paid . . . . .	800,000 00
Increase in sinking funds . . . . .	2,075,329 37
Increase in net debt . . . . .	973,926 88

*On November 30, 1925*

Net debt . . . . .	\$43,116,781 82
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### III. CONSTRUCTION

The first section of the Mill Brook Valley Sewer in Arlington and Medford was completed during the year and work upon the second section started.

Extensive repairs to two pumping units at the Deer Island Station have been made and the head houses at Shirley Gut have been rebuilt. The work of installing the new Morris pump and Nordberg engine at the Ward Street Station was completed and they were put into service April 17 and have proved very satisfactory.

The new Weston Aqueduct water supply main from the terminal chamber at Weston to the old Mystic station in Somerville has been completed and



the 48-inch line from this point through Boston Avenue to College Avenue, Medford, has also been completed. The section of the Weston ~~Artery~~ supply main as far as Arlington Centre was put into service during the year and the rest of these lines will be tested and put into service early in the coming year.

The additional Northern High-service line in Malden has been about one-half constructed and will be completed and put into service during the coming year.

Preliminary work has been started upon the new Southern High-service line.

The Arsenal Street Bridge over the Charles River has been completed and opened to traffic and the River Street Bridge has been constructed and will be surfaced and ready for use as soon as the weather in the spring permits.

Work on the Old Colony Parkway has progressed during the year. The Mt. Vernon and the Patten's Cove bridges have been constructed and will be ready for traffic when required. The section from Columbia Road to Fox Point is about filled to subgrade. The fill across Dorchester Bay should be completed during the first part of the coming year. Construction of the bridge over the channel in Dorchester Bay, as well as the railroad bridge at Pope's Hill, should be started during the coming year.

Construction plans for the Northern Traffic Route have been completed, the takings made and settlements for damages are progressing. Construction work will start early in the spring.

All the necessary assents required for the Cottage Farm Bridge were finally secured last October and unless some further difficulty is encountered, construction should start early in the spring.

Private funds have been given for a new foot bridge opposite the Harvard Graduate School of Business Administration over the Charles River. Preliminary studies and construction plans are under way.

The new electric lighting system on the Revere Beach Reservation from Eliot Circle to Northern Circle was installed and the lights were turned on in June. The next section of electric lighting, from Eliot Circle, Revere, to the Middlesex Fells Parkway has been started and about one-half completed.

About six miles of roadway have been reconstructed and resurfaced with bituminous macadam by contract during the year, in addition to the ordinary roadway repairs and improvements. The reconstruction work was distributed over parts of the Blue Hills Parkway, Furnace Brook Parkway, Memorial Drive and Middlesex Fells parkways.

Surveys and plans for the extension of the West Roxbury Parkway from Weld Street to Newton Street have been completed and the section will be constructed during the coming year.

Extensive repairs were required and have been made to the drawbridge at Charles River Dam. The structures had become weakened through corrosion during the fifteen years of operation.

The tide water dam at Black's Creek, Quincy Shore, was completed July 31st.

An additional taking has been made for the Quannapowitt Parkway, in Wakefield, to give an outlet on to Main Street without interference with the ice houses upon the old line of taking. The work of filling for construction will start early in the coming year.

#### IV. PARKS AND RESERVATIONS

During the year the usual work of maintenance of the Parks and Reservations has been carried on by the labor forces of the Commission. The growing use each year by the public of the parks and reservations, particularly of the crowded bathing resorts, adds to the work of the force.

The beaches are patronized each year in ever larger numbers by the public, although the bath houses do not show much increased use. Each year the larger number of automobiles makes the metropolitan areas avail-



able to a larger number of people and adds to the burdens of upkeep and maintenance as well as to the difficulties of traffic regulation.

During the year two hundred and eighty-five acres have been added to the Middlesex Fells Reservation by purchase from the estate of Samuel C. Lawrence. The former owners had developed the property similarly to the land in the reservation and allowed it to be used by the public and its addition to the reservation will save from private development this section of land which for many years has been practically a part of the Fells.

During the year much of the tree spraying for gypsy moths and other plant insects was discontinued, as it was hoped that it would not be required. It is doubtful, however, if these pests can be kept in hand without greater effort in the following years.

The Commission gave 125 band concerts during the summer, at an expense of \$19,668.56.

## V. POLICE DEPARTMENT

The police force remains substantially the same as in previous years, and consists now of six captains, four lieutenants, one lieutenant inspector, seventeen sergeants, one detective sergeant, one hundred thirty-four patrolmen and one policewoman, a total of one hundred sixty-four. During the summer season thirty-seven temporary patrolmen and two policewomen were employed. During the year two captains were retired, one sergeant died, five patrolmen were retired, one resigned, and one was discharged. Nine new members have been added to the force.

The work of the police department each year increases with the growing use of the metropolitan roadways and reservations, involving a larger amount of business. The automobile traffic is heavier each year and its regulation is more difficult. It is to the credit of the department that it has continued to maintain its efficiency without any increase in numbers.

## VI. RAINFALL AND CONSUMPTION OF WATER

While the precipitation on the watersheds during the year was only a little below the average, the yield of the watersheds was over 20 per cent below normal. The Wachusett Reservoir did not fill last spring. It rose to elevation 386.19, 8.81 feet below high-water mark on April 27, from which level it was drawn down to 369.60, the lowest level since the reservoir first filled, and 25.40 feet below high-water mark. The rains of December caused the reservoir to rise to 373.48 on December 31, 6.69 feet below the level on the same date in the previous year. Considering the lower level to which the reservoir filled in the spring, the decrease during the year in the amount stored is not necessarily alarming, considering also the unusual draft by the City of Worcester. With a normal precipitation during the winter months, the reservoir should fill to at least the same level as this year. However, the demands of consumption have approximately reached the yields of the watersheds and it is unwise to delay longer acquiring additional sources of supply.

The investigation authorized by Chapter 126 of 1923 of methods of purification by filtration of the waters of the South Sudbury has been completed. A process of coagulation and slow sand filtration has been found to be effective and practical and will make available this source of supply now owned, but not used.

The Metropolitan Water Supply Investigating Commission has completed its investigations and filed its report December 1st. With this report as well as the 1922 report of the Joint Board before it, the Legislature has sufficient information to enable it to decide where the District, as well as the City of Worcester, should look for additional supplies. Some definite plan should be authorized and construction work started this coming year.

The town of Brookline became a member of the District during the year under an agreement by which the town is to use its own available supply and the District is to furnish the excess water required.



During the year 46,847,678,000 gallons of water were furnished 18 cities and towns regularly supplied, equivalent to a daily average consumption of 128,349,800 gallons, and for the population of 1,303,000 at the rate of 99 gallons per capita per day, an increase of 2 gallons per capita over 1924, on the basis of the 1925 census.

## VII. SPECIAL INVESTIGATIONS

In accordance with the provisions of Chapter 13 of the Resolves of 1925 the Commission investigated and reported as to the advisability and expediency of establishing a public comfort station on or near the Lynn Shore Reservation, in the vicinity of King's Beach. The report is printed as House Document 1 of 1926.

In accordance with the provisions of Chapter 12 of the Resolves of 1925 the Commission investigated and reported on the necessity and feasibility of protecting the purity and sanitary condition and of regulating the flow of water in the watershed and stream and tributaries thereof, known as St. Mary's Brook, in Medford and Malden. The report is printed as House Document 216 of 1926.

In accordance with the provisions of Chapter 16 of the Resolves of 1925 the Commission has considered the subject matter of House Document 1102 of 1925 relative to the construction of an additional main sewer in the valley of the Aberjona River in Stoneham and Wakefield, and particularly whether any part of the cost of said sewer should be borne by the North Metropolitan Sewerage District and if so, what part and how to be apportioned. The report is printed as House Document 217 of 1926.

In accordance with the provisions of Chapter 14 of the Resolves of 1925 the Commission has considered the advisability and cost of acquiring as a metropolitan park reservation an area suitable for a public reservation with boating and bathing facilities on both sides of the Charles River and adjacent to the Spring Street Bridge connecting Boston and Dedham. The report is printed as House Document 324 of 1926.

## VIII. OTHER REPORTS

The reports of the Directors of Parks, Park Engineering, Water and Sewerage, with tables, statistics and financial statements, are herewith presented.

Respectfully submitted,

DAVIS B. KENISTON,  
*Metropolitan District Commissioner.*

FEBRUARY 27, 1926.

## REPORT OF THE DIRECTOR OF PARKS

HON. DAVIS B. KENISTON, *Commissioner, Metropolitan District Commission.*

MY DEAR SIR:—As customary, I submit herewith a report in regard to the work and conditions in the Parks Division of the Metropolitan District Commission, for the year ending December 31, 1925, which comes under my general supervision as Director of Parks.

During the past year there have been several important changes in the Police Department. Captain Edward M. W. Brawley, who had served the department faithfully and well for 25 years, was retired on November 12, 1925, because of ill health, brought on from worry and over-work. He will be greatly missed in the Middlesex Fells Division, where, as Captain, he had charge of the police and the care of approximately 2,000 acres of reservation land and 40 miles of roads. Lieutenant Edward M. Woods, who has been in our department for 25 years, and had been carefully trained by the late Superintendent Herbert W. West, was chosen for this post, and was placed in charge of Middlesex Fells Division and promoted to the rank of Captain on November 16, 1925.



Captain Elmer E. Bickford, of Nantasket Beach Division, was retired also, on October 30, 1925, after 26 years on our force. For 15 years he handled the Nantasket Beach Division most successfully, having no serious trouble, although thousands of people thronged the reservation each summer. The affairs of this division have been cared for in a business-like manner and with credit to the Commission. Lieutenant Frank D. Breivogel was given charge of the division and promoted to the rank of Captain on November 12, 1925. Captain Breivogel has been the drill master of the Metropolitan District Police for many years and has a splendid record, having served at the Charles River Division, Lower Basin, during the later years.

The department met with a great loss in the death of Sergeant William H. Chaisson, who died October 29, 1925. He was stationed in the Charles River Upper Division for many years and was a most efficient officer.

Sergeant Burton A. Murray and Detective-Sergeant John H. Connolly have been promoted to the rank of Lieutenant during the year. Officers George W. Arbuckle, Joseph P. F. Rooney and William C. Martin have been promoted to rank of Sergeant. Our force is now composed of 6 captains, 4 lieutenants, 1 lieutenant-inspector, 17 sergeants, 1 detective-sergeant, 134 patrolmen and 1 policewoman. During the summer 37 patrolmen were added for temporary service, and two temporary police-women were employed. During the past twelve months 3,365 arrests have been made by the police department. The number of arrests for the year ending November 30, 1924, was 4,313. The total amount of fines imposed was \$28,844.00.

In Charles River Upper Division, the old discarded stable in Brighton has been remodelled into a most useful police station. The grounds have been much improved by Captain Garrett and conditions at this headquarters are generally improved.

Our police force are doing good work, as in the past. More motorcycles are needed, and motorcycles should replace horses where this is possible. I recommend the purchase of more traffic signals similar to those already in use at various points in the Park System. The pay of first-year patrolmen should be increased from \$1,540 per year to \$1,650 per year, and the temporary summer officers should be paid at the rate of \$1,650 per year. A new motor boat for use in police work on Charles River Basin should be purchased. It will probably be necessary to increase the number of officers employed during the next summer. I recommend that some allowance be made the police captains of the various divisions for heating the houses in which they live. These houses are in badly exposed locations and the heating expense is heavy for men with small salaries.

The traffic on the boulevards of the Commission is greatly congested in the summer months, and after careful study of the situation, the following rule in regard to busses was put into effect last July:—

“No person shall have or operate a motor vehicle which has a seating capacity of more than eight persons upon any road, driveway or boulevard under the care and control of the Metropolitan District Commission, without a written permit therefor by said Commission.”

This rule seems to be working out to good advantage. One-way traffic in several places has helped to keep cars moving.

I feel that this Commission should receive a greater part of the motor vehicle fees, as a large percentage of them is received from cars owned in the district. The cost of construction and maintenance of the parkways is largely for the benefit of the motorist, and should be paid for by him.

The general work of construction of roads, bridges and parkways has been carried on with great success under the able supervision of our Chief Engineer and Director of Park Engineering, Mr. John R. Rablin. The work on Cottage Farm Bridge has been held up, but work is expected to be started before next summer and it should be completed by December, 1927. The Arsenal Street, River Street and Western Avenue bridges have been practically completed and are open to traffic. Plans are in progress



for the John W. Weeks Memorial Bridge over the Charles River opposite the Harvard School of Business Administration. The extension of West Roxbury Parkway to Newton Street is well under way. A large amount of filling has been deposited on the section of Old Colony Parkway between Columbia Road and Fox Point for building to subgrade. This section is nearly completed. Work of construction of the bridge at Mt. Vernon Street is in progress. About 8 miles of boulevard have been reconstructed during the year in the various divisions, at a cost of about \$250,000. Where possible, the boulevards are being constructed at a width of forty feet. Plans have been completed and the taking made for the Northern Traffic Artery. Settlement with property owners is in progress, under the direction of Frank W. Kaan. Over \$550,000 has been expended for land settlements, and about \$31,000 for appraisals, experts, etc. This work will include construction of a bridge over the southern division of the Boston & Maine Railroad. Plans have been prepared for construction of Quannapowitt Parkway and work is to begin at once. I recommend that Revere Beach Parkway be widened from Middlesex Fells Parkway to Main Street, Everett, as this is now one of the most congested parts of the Park System. The lighting system at Revere Beach Reservation has been greatly improved by installation of electric lights. About \$60,000 has been spent. Installation of electric lighting on Revere Beach Parkway has been started. A part of Revere Beach Boulevard has been resurfaced. Repairs have been made in both Revere Beach Bath House and Nahant Beach Bath House. These bath houses were constructed many years ago and extensive repairs are needed from time to time. I recommend that the bath house lockers and yards be gradually rebuilt with more up-to-date fire-proof buildings. This work is also needed at Nantasket Beach Bath House. Although the Commission has voted to report that no more bath houses are needed, I feel that conditions at Mystic Lakes warrant the building of a suitable bath house, which should be conducted in a proper manner, with adequate policing. Many complaints have been received on this subject during the past summer. I also recommend that a sanitary building be constructed for convenience of the thousands who visit Lynn Shore Reservation. The band stand at Nahant has been repaired and put in condition to last several years more.

The band concerts given by the Commission have been much enjoyed, as in previous years. One hundred and twenty-six concerts were given during the season of 1925. In 1917, 372 were given; in 1918, 353; in 1919, 349. I believe that more concerts should be given next year at Nantasket, Broadway Park, Somerville, and Wakefield, where the concerts are greatly appreciated.

The trails we have made in the Blue Hills and Middlesex Fells have become very popular and are thoroughly enjoyed by the lovers of the great outdoors. The people seem to enjoy them more in winter in recent years, finding plenty of tramping ground in the Parks District without taking long journeys into other states. Many children and grown-ups, too, visit our collection of animals at Spot Pond, and the number of animals should be increased. The nursery has been a success, and much money has been saved by furnishing trees and shrubs for planting in the various reservations and parkways. The nursery is now in need of being re-stocked.

In connection with the settlement of the estate of General Samuel C. Lawrence, an opportunity was afforded to purchase about three hundred acres of woodland adjacent to the Middlesex Fells Reservation on the southwest side. This land has great natural attractions and had been maintained and improved by the owner with good taste and at considerable expense. For many years it had been used by the public and it was naturally a part of the Fells Reservation. There was strong public interest in its acquisition by the Commonwealth and an appropriation of \$160,000 was made by the Legislature for this purpose, so that it is now the property of the Metropolitan District Commission.

Inquiries have been made of the Commission in the past on the subject



of providing golf courses in the Metropolitan Parks. Our department is much behind other parts of the country in this respect, and there are several fine locations for links under our jurisdiction. Golf is a popular sport at the present time, and the demand seems to warrant some provision for this health-giving sport. It seems as though the courses could be made self-supporting. The Lawrence estate would be a particularly good location, provided it could be developed. The Sheepfold would furnish another good spot; there are several good locations in Blue Hills Reservation; and a 9-hole course could be laid out in Riverside Recreation Grounds.

In my judgment, the time has come when the Commission should be provided with sufficient funds to set apart, at least in Middlesex Fells and the Blue Hills reservations, sufficient land to be used for automobile camp sites, with every possible facility for the convenience of visiting motorists.

Such a step would be in keeping with the progress and enterprise of every Western city and would offer to visitors, particularly from other states, a most cordial welcome.

Incidentally, such camp sites will materially help business, as it has been again and again proven that these visiting motorists spend large sums of money with the merchants of the towns contiguous to the location of these camp sites.

Complaints have been received with respect to the public boat landing in the northeast corner of the Charles River Basin. It is rather an old-fashioned wooden affair, which is entirely out of keeping with its surroundings. This would be an ideal location for a modern landing of stone construction, which might be dedicated as a memorial to some of our great men.

The 200,000 white pine seedlings planted in the Blue Hills and Stony Brook Reservations have now shown enough growth to improve greatly the appearance of the many acres of our holdings in this section.

My recommendations of last year have nearly all been carried out, with the exception of a single most needed one which has been allowed to lie dormant because of the delay in building the Cottage Farm Bridge. This is the building of the road along the east side of the Charles River from Bay State Road to North Harvard Street. I feel this road should be built at the earliest date possible.

For the fifth time, let me call attention to the amount of our budget, which was \$2,204,595.38 for the past year, giving an idea of the work being done by this department.

Respectfully submitted,

FRANK G. HALL, *Director of Parks.*

## REPORT OF THE DIRECTOR AND CHIEF ENGINEER OF PARK ENGINEERING

Hon. DAVIS B. KENISTON, *Commissioner, Metropolitan District Commission.*

DEAR SIR:—I submit the following report of the work done under the supervision and direction of the Engineering Department of the Parks Division, during the year ending December 31, 1925.

The engineering force remains substantially the same as last year and the organization has averaged as follows: one Chief Engineer, 1 senior assistant engineer, 11 assistant engineers, 2 inspectors, 2 designing engineers, 25 engineering assistants, 4 clerks and stenographers, 1 garage foreman, 1 supervisor of machinery, 1 electrical engineer superintendent and 45 bridge and lock attendants.

Sixteen new contracts have been made during the year for work of construction, including two bridges over the Charles River Basin, costing \$450,000, two bridges and filling for Old Colony Parkway, costing about \$800,000, and the reconstruction of about eight miles of boulevard varying in width from 30 to 40 feet, the cost of which was about \$250,000.

The work under these sixteen contracts has been completed except in three instances, the bridge over Charles River Basin at River Street, the



bridge for Old Colony Parkway over Mt. Vernon Street and the filling of  
Dorchester Bay for Old Colony Parkway.

These two bridges are substantially completed, but cannot be surfaced on account of winter weather. The filling in Dorchester Bay for Old Colony Parkway is progressing rapidly, but will probably not be wholly completed until spring.

Plans have been completed and the land taken for the Northern Traffic Artery through Cambridge and Somerville, the estimated cost of which is, for land \$1,400,000 and for construction \$1,000,000.

Surveys and plans have been completed for the taking of land for an extension of West Roxbury Parkway from Weld Street to Newton Street, for which the estimated cost of land and construction is about \$220,000.

Preliminary studies and construction plans are in progress for two new bridges over the Charles River Basin, one at Cottage Farm Bridge site and one opposite the site of the new Harvard Graduate School of Business Administration, two new bridges in Old Colony Parkway, one across Dorchester Bay and one for the New York, New Haven and Hartford Railroad over the parkway near Pope's Hill Station; and one bridge for the Northern Traffic Artery over the Southern Division of the Boston & Maine Railroad.

The department has also had charge of the maintenance, operation and repairs of drawbridges, dams, locks and gates and general supervision of repair and maintenance of roads and structures in the various divisions.

The installation of an electric street lighting system consisting of 108 magnetite arc lamps with underground cables and ornamental posts in Revere Beach Reservation has been completed. The work of extending the electric street lighting installation in Revere Beach Parkway from the southerly end of Revere Beach Reservation to Middlesex Fells Parkway, a distance of five and a quarter miles, is in progress. The type of lamps to be used in this section is 600 candle-power incandescent lamps hung from bracket arms on twenty-foot steel poles. There will be 190 lamps served by underground cables.

The cost of conducting the department has been as follows:

#### Engineering:

##### Construction:

Services . . . . .	\$55,103 50	
Expenses . . . . .	3,204 34	
	<hr/>	\$58,307 84

##### Maintenance:

Services . . . . .	\$32,336 03	
Expenses . . . . .	2,505 02	34,841 05
	<hr/>	

Total . . . . .		\$93,148 89
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The following is a detailed list of the work done under the direction of the Engineering Department.

#### PARKWAYS

*Alewife Brook Parkway.* — A section of Alewife Brook between Massachusetts Avenue and Henderson Street has been dredged to provide the required depth of water. The brook shoals to some extent and it has been the practice to dredge a section each year to maintain the proper depths of water. The plant for the work was furnished by the Commission and the labor by Coleman Brothers at a cost of about \$2,000.00.

*Blue Hills Parkway.* — Concrete sidewalks have been built in both sides of Blue Hills Parkway where the abutters petitioned and agreed to pay one-half the cost of same. Five thousand, two hundred and forty-four square feet of walk has been built under contract with John A. McCarthy at a rate of 28 cents per square foot, a total cost of \$1,468.32, one-half of which was paid by the abutters.

Contract No. 80: Bids were received on April 30, 1925, for reconstructing with bituminous macadam a section of the easterly roadway of Blue Hills



Parkway, about 1,750 feet in length and 36 feet in width. The contract was awarded to A. W. Loud, lowest bidder, and the work was begun May 11, 1925, and completed July 29, 1925, at a total cost of \$9,071.79.

*Cambridge Parkway.* — Contract No. 79: The section of Memorial Drive between Massachusetts Avenue and Brookline Street, Cambridge, 5,800 feet in length and 30 feet in width, has been reconstructed with bituminous macadam. Bids were received on April 23, 1925, and the contract awarded to the lowest bidders, Reynolds Bros., Inc. The work was begun May 4, 1925, and completed July 22, 1925, at a total cost of \$35,552.51.

*Furnace Brook Parkway.* — Contract No. 70: The work of constructing half-tide dam at Black's Creek, for which bids were received in July, 1924, has been completed. The City of Quincy was required under the act authorizing the construction of the dam to pay one-half the cost. The City paid its portion in the spring of this year and the contract was awarded to W. A. Norton Company, the lowest bidders. The work was begun March 17, 1925, and completed July 31, 1925, at a total cost of \$13,530.22.

The effect of retaining the tide water in the basin of the creek west of the parkway drive, has been very beneficial in the improvement of the scenic effect and in the provision of bathing facilities during the period of low water in the bay. Many bathers have taken advantage of the opportunity.

Contract No. 80: Bids were received on April 30, 1925, for reconstruction with bituminous macadam, the section of roadway from Adams Street to Newport Avenue, Quincy, together with the bids for the work in Blue Hills Parkway, and was awarded to the same contractor, A. W. Loud, lowest bidder. The work was begun May 11, 1925, and was completed July 29, 1925, at a total cost of \$21,593.96. The total length is 4,000 feet and width 36 feet.

Contract No. 86: The work of reconstructing with bituminous macadam the surface of the parkway on the section along Quincy Bay from Fenno Street to Pilgrim Highway, Quincy, was awarded to E. C. Sargent, lowest bidder. The length of this section is 3,400 feet and the width 40 feet. Work was begun August 6, 1925, and completed October 20, 1925, at a total cost of \$48,086.66.

*Middlesex Fells Parkway.* — Several sections of this parkway have been reconstructed with bituminous macadam as follows:—

Under contract No. 82 with the Rowe Contracting Company, the work of reconstructing the section from Wellington Bridge to Riverside Avenue, westerly roadway, length 1,900 feet, width 40 feet, and 1,550 feet 26 feet in width, and from Middlesex Avenue to Riverside Avenue, easterly roadway, length 1,550 feet, width 36 feet, was begun June 11, 1925, and completed August 20, 1925, at a total cost of \$31,869.54.

Under contract No. 83 with James H. Fannon, work of constructing sections from Fulton Street to Forest Street, easterly roadway, length 1,500 feet, width 36 feet, and from the Boston & Maine Railroad Bridge to Salem Street, easterly roadway, Malden and Medford, length 3,000 feet, width 36 feet, was begun June 11, 1925, and completed July 10, 1925, at a total cost of \$21,414.85.

Under Contract No. 88 with Coleman Brothers, the work of reconstruction of the sections from Wellington Bridge to Mystic Avenue, westerly roadway, length 1,300 feet, width 30 feet, Salem Street to Forest Street, southerly roadway, length 4,800 feet, width 26 feet, and 180 feet, 35 feet in width, and Pond Street in the Middlesex Fells Reservation from Woodland Road to Washington Street, Stoneham, 1,900 feet in length and 25 feet in width, was begun September 17, 1925, and completed November 17, 1925, at a total cost of \$38,831.34.

*Northern Traffic Artery.* — The work of making surveys and preparing plans for acquiring the land for the Northern Traffic Artery, authorized by Chapter 489, Acts 1924, has been completed. The takings have been made, damages awarded and betterments assessed. The work of removing the buildings will progress as fast as settlements are made, and it is expected to begin the work of construction in the spring.



✓ *Old Colony Parkway.* — Contract No. 78: Work of building reinforced concrete bridge at Patten's Cove, Dorchester, was awarded to the Bay State Dredging & Contracting Company, lowest bidders. Work was begun April 6, 1925, and completed August 26, 1925, at a total cost of \$53,884.49.

Contract No. 84: The plans for the crossing of Dorchester Bay with the Old Colony Parkway, provide for a bridge about 300 feet long with draw and the filling of the approaches from each shore. These approaches are about 1,000 feet long on each side and will require about 600,000 yards of filling material. Bids were received on June 4, 1925, and the contract awarded to the Bay State Dredging & Contracting Company, lowest bidders. Work was begun June 13, 1925, and is still in progress.

Contract No. 85: At the northerly end of the parkway near its junction with Columbia Road, the driveway rises to meet the grade of Columbia Road and passes over Mt. Vernon Street. Bids for the work of building bridge over Mt. Vernon Street were received on August 27, 1925, and contract awarded to the lowest bidders, Coleman Brothers. Work was begun September 7, 1925, and is still in progress.

Filling material has been offered from time to time at a very reasonable rate by contractors excavating for building operations in the city and vicinity, and has generally been accepted and used for building to subgrade the section from Columbia Road to Fox Point. This section is nearly completed to subgrade.

Contract No. 87: A triangular parcel of land has been acquired from the Frost Coal Company to widen the approach to the Neponset Bridge at the junction of the Old Colony Parkway with Neponset Avenue. This area has been reconstructed and resurfaced with granite block pavement. Bids were received on September 3, 1925, and the contract awarded to the lowest bidder, John W. O'Connell. Work was begun September 15, 1925, and completed October 21, 1925, at a total cost of \$6,523.78.

The work of preparing plans for bridge for the New York, New Haven & Hartford Railroad over the Old Colony Parkway near the Pope's Hill Station is in progress. It is expected to begin the work early next spring.

*Quannapowitt Parkway.* — Plans have been prepared for additional takings for outlet for the parkway on to Main Street, so as to avoid interference with the operation of the ice houses and the expense of providing for same. The construction plans have been revised and it is expected to obtain bids soon for building the parkway.

*Revere Beach Parkway.* — Contract No. 81: The work of reconstructing the section from North Shore Road to the junction of Winthrop Avenue, with bituminous macadam, 1,250 feet in length and 36 feet in width, was done by the Rowe Contracting Company, bids having been received at the same time as those for Middlesex Fells Parkway. Work was begun May 21, 1925, and completed June 15, 1925, at a total cost of \$5,937.86.

The section of the parkway from Main Street, Everett, westerly, 1,100 feet in length and 28 feet in width, has been reconstructed with bituminous macadam. The work was done by the Rowe Contracting Company in connection with its work in Middlesex Fells Parkway, and was completed September 14, 1925, at a total cost of \$3,821.44.

The work of installing electric lighting system to replace the present obsolete naphtha lamps has been in progress, work being done by the forces of the Revere Beach Division. The materials for this work have been purchased by the Department of Administration and Finance under specifications prepared by this department. The work required 25,450 feet of single conductor armored parkway cable and 16,915 feet twin-conductor armored parkway cable which is to be laid in a trench instead of being pulled into conduits previously laid. This system of underground service is considerably cheaper than the conduit system and is much used outside of New England. There will be installed 190-600 candle-power incandescent lamps. These lamps are hung pendant from six-foot bracket arms, attached to steel poles twenty feet in height above the ground. The lamps are to



be spaced from 150 to 200 feet apart, in some cases located all on one side of the parkway, other cases staggered on both sides of the parkway.

The work is above three-quarters completed and it is expected that the lamps on this portion may be put in operation soon after the first of the year. The balance of the installation will be delayed until spring on account of the frost conditions.

*West Roxbury Parkway.* — Surveys have been made and plans have been prepared for taking for the acquirement of land for an extension of the parkway from Weld Street, West Roxbury, to Newton Street, Brookline. The taking will be made soon and the work of construction of this section will be begun early next spring.

#### RESERVATIONS

*Charles River Reservation, L. B.* — Contract No. 76: Plans and specifications have been prepared for the construction of reinforced concrete arch bridge and approaches over the Charles River Basin at Cambridge and River Streets, Boston and Cambridge. The bridge consists of three arch spans, two of 60 feet and one center span of 75 feet, and the total length, including wing walls of approaches, is 371 feet. The width is 60 feet and contains a roadway 40 feet in width and two sidewalks 10 feet each. Bids for the construction were received on March 21, 1925, and the work awarded to the lowest bidders, Luke S. White, Inc. Work was begun March 27, 1925, and is still in progress, although nearly completed. The remaining work, which is the surfacing of the roadway and walks, must be postponed until spring on account of the weather.

The preliminary work for the construction of the proposed Cottage Farm Bridge, in accordance with the plans of the Planning Division provided by Chapter 416, Acts of 1924, has been in progress. Plans for the relocation of the Grand Junction tracks of the Boston & Albany Railroad were not obtained from the Railroad Company until March 30, 1925, and as this was the first step, further progress could not be made until this relocation was determined. Four architects were invited to submit sketches in competition for the design of the proposed bridge. These studies were received on March 18, 1925. No choice was made by the Commission until October 28, 1925, pending the receipt of approval and licenses of the various parties interested. Approval of the plans by the cities of Boston and Cambridge was received in February and March, 1925. Approval of the Public Works Department of the Commonwealth was requested, but it was determined by the Attorney General that their approval was not necessary. The approval of the War Department was received on September 18, 1925. The sketch for architectural design submitted by Desmond & Lord was selected by the Commission and approved on October 28, 1925. The work of preparing the construction plans and specifications in accordance with architect's sketches is now in progress.

Proposal has been made by private parties to give to the Commonwealth through the Trustees of Harvard College, sufficient funds for the construction of a memorial bridge over the Charles River Basin about opposite DeWolfe Street, Cambridge, to the side of the new Harvard Graduate School of Business Administration, now in process of construction. This bridge is to be for pedestrian traffic only. The deed of gift is being prepared. The architect's sketches for the design have been prepared by McKim, Mead & White and submitted to the Commission for its approval.

*Charles River Reservation, U. D.* — Contract No. 74: The work under contract with V. James Grande, awarded on November 6, 1924, for construction of reinforced concrete bridge and approaches over the Charles River at Arsenal Street, was begun on January 30, 1925, and completed December 17, 1925. The bridge consists of two reinforced concrete arch spans, each 70 feet. The total length of the bridge is 292 feet, and width 60 feet. The roadway is 40 feet in width and two sidewalks each 10 feet in width. There are two street railway car tracks over the bridge. During the construction of the bridge a temporary foot bridge was provided for pedestrian traffic



and all vehicular traffic was diverted. The new bridge was opened to all traffic on November 14, 1925. The total cost of the work has been \$172,787.12.

Contract No. 77: The stable building at Speedway Headquarters, Brighton, was no longer needed for use as a stable, as motor vehicles had been substituted for horses in this division. Larger quarters were necessary for the police and division forces, and plans have been prepared by William D. Austin, architect, for conversion of the stable into a police station. Bids were received on February 5, 1925, for the work of alterations and contract awarded to John P. Curley, lowest bidder. Work was begun February 13, 1925, and completed July 22, 1925, at a total cost of \$16,427.40. Building has since been occupied by the police force of the division.

Chapter 14, Resolves of 1925, required the Metropolitan District Commission to make investigations and prepare estimates for establishment of public reservation with boating and bathing facilities near Spring Street Bridge over the Charles River, Boston and Dedham. Surveys and plans have been made and estimates of cost submitted to the Commission for its report to the legislature.

*Middlesex Fells Reservation.* — Chapter 324, Acts of 1925, authorized the Metropolitan District Commission to acquire certain land of the estate of Samuel C. Lawrence, late of the city of Medford, as an addition to the Middlesex Fells Reservation. Surveys and plans for taking of the land have been prepared and taking made. The area of land acquired is about 285.5 acres and adjoins the southerly side of the reservation near Whitmore Brook entrance extending to Winthrop Street, Medford.

*Revere Beach Reservation.* — Contract No. 73: The work of reconstruction with bituminous concrete surfacing of the roadway of Revere Beach Reservation, from Eliot Circle to Revere Street, Revere, which was begun September 29, 1924, and suspended on December 4, 1924, on account of weather conditions, was again resumed in March and completed on June 5, 1925. The total cost of the work has been \$77,843.43.

The new electric lighting system authorized to be installed along the Revere Beach Reservation from Eliot Circle to Northern Circle, and the installation of which was carried on in connection with the reconstruction work, has been completed and the lights turned on for operation on June 10, 1925. There are 108 magnetite arc lamps with ornamental poles and underground cables. The lamps are spaced 100 feet apart from Eliot Circle to Revere Street and 200 feet apart from Revere Street to Northern Circle. Those between Eliot Circle and Revere Street are on two separate circuits, so that one-half of them may be operated until midnight and the other half all night, and it is arranged so that alternate lamps may be cut out during the winter months, if it seems desirable to do so. The estimated cost of this installation was \$50,000. The work has been completed for \$34,190.39.

## BRIDGES AND LOCKS

All work of maintenance and repair of bridges and locks and operation of drawbridges has been done under the direction and supervision of this department.

Extensive repairs have been made to the steel drawbridge at the Charles River Dam. The bridge has been in operation about fifteen years and portions of the structure had become corroded so as to weaken it. It was necessary to close one-half of the roadway at a time during the repairs. The work was done by the Atlantic Works of East Boston, and the total cost has been about \$17,000.

The wooden pile dolphins in the basin used for the protection of the lock and drawbridges, which have been damaged by traffic, were repaired at a total cost of \$4,222.15.

The work of breaking ice in the Charles River Basin for the season of 1924 and 1925 has been done by a new police boat owned by the Department of Public Safety of the Commonwealth. The total cost of the work for

## Metropolitan Park System — December 1, 1925

[illegible]





last winter was \$13,449.60. The boat began operations December 15, 1924, and was released on March 14, 1925.

The following is a record of the traffic through locks and drawbridges during the year:—

#### CHARLES RIVER DAM AND LOCKS

Number of openings, 5,098	Marble (tons), 11
Number of vessels, 7,363	Sand (tons), 415,460
Number of boats, 2,649	Gravel (tons), 169,745
Lumber (feet B. M.), 1,873,616	Rubble stone (tons), 30,895
Coal (tons), 183,276	Granite (tons), 3,348
Oil (barrels), 709,100	Water (gallons), 21,000
Empty barrels, 28,512	Miscellaneous (tons), 300
Piling (lineal feet), 10,825	

There were 3,832 drawbridge openings.

The small boat lock was not used during the year.

#### *Cradock Bridge Lock*

Number of openings, 362	Number of boats over rollway, 141
Number of boats, 459	

#### *Temporary Cottage Farm Bridge*

Number of openings, 6	Number of vessels, 10
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#### *Malden River Bridge*

Number of openings, 432	Number of vessels, 729
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#### *Neponset Bridge*

Number of openings, 314	Number of vessels, 465
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#### *Saugus River Bridge*

Number of openings, 441	Number of vessels, 659
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#### *Wellington Bridge*

Number of openings, 137	Number of vessels, 171
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#### GENERAL

The road repairs and maintenance have been done by the forces of the various divisions under the supervision and direction of the Engineering Department.

All bridges under the care and control of the Commission have been inspected twice during the year and estimates of cost of repairs included in the budget.

Respectfully submitted,

JOHN R. RABLIN, *Chief Engineer and Director of Park Engineering.*





	Double Roadways Miles	Single Roadways Miles
Lynn Fells . . . . .	—	1.05
Lynnway . . . . .	—	.68
Middlesex Fells . . . . .	4.10	1.77
Mystic Valley . . . . .	—	6.17
Nahant Beach . . . . .	—	.50
Neponset River . . . . .	—	.76
Old Colony . . . . .	—	1.51
Revere Beach . . . . .	1.45	3.73
West Roxbury . . . . .	—	1.75
Winthrop . . . . .	—	1.09
Woburn . . . . .	—	1.38
	7.38*	31.60

\*Equivalent in miles of single roadway . . . . . 14.76

Highways transferred by or taken from cities and towns:	Miles
Alewife Brook Parkway . . . . .	.44
Blue Hills Reservation . . . . .	1.23
Charles River Reservation . . . . .	.39
Middlesex Fells Reservation . . . . .	6.63
Nantasket Beach Reservation . . . . .	.71
	9.40

Length of automobile roads in reservations:	
Blue Hills . . . . .	5.35
Charles River . . . . .	2.80
Middlesex Fells . . . . .	4.06
Stony Brook . . . . .	3.25
	15.46
Grand total . . . . .	83.63

All above roads open to automobile traffic.

<i>Length of Carriage Roads and Bridle Paths in Reservations</i>	<i>Miles</i>
Blue Hills Reservation . . . . .	25.58
Middlesex Fells Reservation . . . . .	14.55
Stony Brook Reservation . . . . .	1.60
Beaver Brook Reservation . . . . .	.22
Charles River Reservation . . . . .	.89
Total . . . . .	42.84

<i>Lights in Parkways and Reservations</i>	<i>Lights</i>
Alewife Brook Parkway (arc lights) . . . . .	10
Blue Hills Parkway (Welsbach gas) . . . . .	80
Charles River Reservation, Upper Division, Soldiers' Field Road, Arsenal Road and North Beach Street, Arsenal Street Bridge (electric) . . . . .	20
Charles River Reservation, Boston Embankment (electric) . . . . .	106
Cambridge Parkway (electric) . . . . .	202
Charles River Reservation, Lower Basin, Dam and Lock (arc) . . . . .	16
Harvard Bridge (electric) . . . . .	30
Western Avenue Bridge (electric) . . . . .	14
Temporary Cottage Farm Bridge (electric) . . . . .	10
Fresh Pond Parkway (electric) . . . . .	15
Furnace Brook Parkway (Welsbach gas) . . . . .	79
Lynn Fells Parkway (Welsbach naphtha) . . . . .	17
Lynn Shore Reservation (electric) . . . . .	28
Lynnway (electric) . . . . .	10
Middlesex Fells Parkway (Welsbach naphtha) . . . . .	258
Middlesex Fells Parkway (electric) . . . . .	2

	Lights
Middlesex Fells Reservation (Welsbach naphtha)	29
Middlesex Fells Reservation (electric)	55
Mystic Valley Parkway (Welsbach naphtha)	60
Nahant Beach Parkway (electric)	7 <sup>1</sup>
Nantasket Beach Reservation (electric)	29 <sup>2</sup>
Old Colony Parkway (electric)	46
Quincy Shore Reservation (Welsbach gas)	78
Revere Beach Parkway (Welsbach gas)	154
Revere Beach Parkway (electric)	10
Revere Beach Reservation (electric)	108 <sup>3</sup>
Winthrop Parkway (Welsbach naphtha)	6
Winthrop Parkway (electric)	16
Winthrop Shore Reservation (electric)	7
Total	1,502

*Miles of Seashore*

	Miles
Lynn Shore	1.50
Nahant Beach	3.92
Revere Beach	2.74
Winthrop Shore	1.71
Nantasket Beach	1.02
Quincy Shore	2.19
Total	13.08

*Lengths of Sea Walls*

	Miles
Lynn Shore	1.30
Revere Beach at Northern Circle	.08
Revere Beach at Eliot Circle	.15
Revere Beach, shore protection, bath-house shelter at Revere Street shelter	.29
Revere Beach, shore protection, south of Northern Circle	.28
Winthrop Shore, bridge to Great Head	1.04
Winthrop Shore, bridge to Grover's Cliff	.23
Quincy Shore Reservation, southerly end	.15
Nantasket Beach Reservation	.50
Winthrop Parkway, near Leverett Avenue, Revere and Winthrop Broad Sound Avenue to Sewall Avenue	.52
Total	4.54

*Miles of River Bank*

	Miles
Charles River	32.61
Mystic River	8.16
Neponset River	15.86
Alewife Brook	4.50
Total	61.13

*Bridges*

Reinforced concrete bridges	16
Steel bridges	10
Wooden bridges	8 <sup>4</sup>
Drawbridges	6
Footbridges	12
Total	52

<sup>1</sup> Five additional lights, June 1 to December 1.<sup>2</sup> Five additional lights in summer.<sup>3</sup> Thirty-three electric, all night, May 1 to October 31. Thirty-three electric, to midnight, June 1 to September 30. Six all night, May 1 to September 30.<sup>4</sup> One-half of Wellington bridge rebuilt with concrete girders.



Culverts

Reinforced concrete and other masonry culverts . . . . .	41
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Dams

Beaver Brook Reservation, small wooden dams . . . . .	2
Charles River Reservation, wooden dam at Waltham, 220 feet in length . . . . .	1
Charles River Reservation, Charles River Basin tidal dam, 1,200 feet in length. . . . .	1
Charles River Reservation, small stone dam in branch below Washington Street, Newton Lower Falls . . . . .	1
Charles River Reservation, reinforced concrete dam at Washington Street, Newton Lower Falls, 175 feet in length . . . . .	1
Furnace Brook Parkway, reinforced concrete dam upstream from Black's Creek Bridge . . . . .	1
Hemlock Gorge Reservation, small stone masonry dam with stop planks, in gorge . . . . .	1
Hemlock Gorge Reservation, small reinforced concrete dam on East Branch of river, Newton Upper Falls . . . . .	1
Hemlock Gorge Reservation, reinforced concrete dam in Charles River at Boylston Street, Newton Upper Falls, 90 feet in length . . . . .	1
Mystic River Reservation, reinforced concrete tidal dam at Cradock bridge, 100 feet in length; weirs, 400 feet in length . . . . .	1
Total . . . . .	11

Lock Gates, Sluice Gates and Tide Gates

- Charles River Reservation, Charles River Basin tidal dam, 6 lock gates, 13 sluice gates, 43 tide gates.
- Mystic River Reservation, Cradock bridge tidal dam, 2 lock gates, 4 sluice gates, 8 tide gates.
- Quincy Shore Reservation, 8 tide gates.
- Revere Beach Parkway, 1 tide gate.

Police Signal System

	Miles
Blue Hills Division . . . . .	30½
Middlesex Fells Division . . . . .	18¼
Nantasket Beach Division . . . . .	2½
Charles River Reservation . . . . .	10
Fresh Pond Parkway . . . . .	½
Total . . . . .	61¾

Revere Beach Division police signal system, serving 11 miles of parkways and reservations, and Middlesex Fells Division, serving 1½ miles of parkway, on wires leased from the New England Telephone and Telegraph Company.



# REPORT OF THE DIRECTOR AND CHIEF ENGINEER OF WATER DIVISION

DAVIS B. KENISTON, *Commissioner, Metropolitan District Commission.*

Sir: — I respectfully submit the following report of the construction and maintenance operations of the Water Division for the calendar year 1925.

## ORGANIZATION

Although the number of supervising, clerical and engineering employees was 53 at the beginning and also at the end of the year, there were many changes in the engineering force during the year. A labor force including 289 employees at the beginning and 292 at the end of the year was engaged in maintaining and operating the reservoirs, aqueducts, pipe lines, hydroelectric and pumping stations and in doing miscellaneous construction work. The average number of employees of all classes for the entire year was 364.

## METROPOLITAN WATER DISTRICT AND WORKS

Under an agreement dated May 21, 1925 the town of Brookline was admitted to the Metropolitan Water District as of January 1, 1925.

The Water District now includes 20 municipalities with an area of about 174 square miles and population as of July 1, 1925, of 1,398,720. The water works lands include an area of about 19,000 acres, of which about 2,000 acres have been planted with pine trees. The works include 9 storage reservoirs with 200 square miles of tributary watershed, a total storage capacity of 80 billion gallons and water surface of 8,600 acres; 60 miles of aqueducts; 2 hydroelectric power stations of a capacity of 7,000 horse power; 16 miles of high-tension power transmission line; 5 distribution pumping stations with a combined equipment of 6,560 horse power and pumping capacity of 280 million gallons a day; 12 distribution reservoirs with a capacity of 2½ billion gallons, and 143.42 miles of distribution mains. The consumption of water from the Metropolitan Water Works during the year by the 18 municipalities regularly supplied was 46,847,678,000 gallons, equivalent to an average daily consumption of 128,349,800 gallons or 98.5 gallons per capita for a population of 1,303,020 in the district supplied.

## CONSTRUCTION

### PUMPING EQUIPMENT, NORTHERN HIGH SERVICE

At the beginning of the year the work of installing additional pumping equipment at the Spot Pond Station in Stoneham had been nearly completed. The erection of the new cross-compound pumping engine of a capacity of 20 million gallons a day was completed so that the engine was first operated on January 8. While adjusting the engine for the acceptance duty trial the steam valves were found to be defective and considerable delay was experienced in replacing them and putting the engine in acceptable condition for the duty trial, which had not been made at the close of the year. The steel framework and cast-iron plates for the floor around the engine have been made and are at the pumping station, but will not be erected until the duty trial is made.

The expenditures for the new equipment amount to \$21,941.72 during the year, making a total of \$107,199.73 for this work, exclusive of \$20,700 to be retained under the contract with the Worthington Pump and Machinery Corporation until the duty trial of the engine is satisfactorily completed, the builder having guaranteed an efficiency of 142 million foot pounds of work per 1,000 pounds of steam used by the engine.

### WESTON AQUEDUCT SUPPLY MAINS

The work of furnishing and laying lock-bar steel pipes 60 inches in diameter in Waltham, under contract with the C. & R. Construction Company, which was in progress at the beginning of the year, was suspended January 17



for the winter and was resumed March 11. Pipe laying was completed June 27 and the resurfacing of the streets and the entire work under the contract was completed October 10.

The work of furnishing and laying lock-bar steel pipes 56 inches in diameter in Belmont and Arlington, which was in progress at the beginning of the year under contract with the T. A. Gillespie Company, was suspended January 24 for the winter. Work of distributing pipes along the line was resumed February 23, pipe laying was resumed in March and completed August 15. The work of resurfacing the streets in Arlington was begun September 8 and was completed October 17. In consideration of the payment of \$12,000 by the Commonwealth to the town of Belmont the town assumed all liability for resurfacing its streets where disturbed by the laying of the water main.

May 26 a contract was made with the C. & R. Construction Company for furnishing and laying riveted steel pipe 60 inches in diameter for Section 12, Weston Aqueduct Supply Mains and a part of Section 51 of the Low Service Pipe Lines in Arlington and Somerville. This line extends easterly from Medford Street, Arlington, in Broadway, Palmer, Hamlet and Coral streets and the Mystic Valley Parkway, crossing under Alewife Brook and through Metropolitan Water Works land to Boston Avenue in Somerville. The work was begun July 6 at Alewife Brook, but on account of delay in making the pipes the work did not progress at the rate specified in the contract and was suspended September 1. No pipes were received until September 8; deliveries were slow for some time thereafter and as a result at the close of the year about 680 linear feet of pipe line had not been laid and about 2,000 feet of trench in which pipes had been laid had not been backfilled.

The total expenditure for the new Weston Aqueduct Supply Main is \$1,901,462.13 of which \$1,073,314.32 was expended during the past year, and there are reserves held under current contracts amounting to \$43,382.70.

During the year easements for laying and maintaining the Weston Aqueduct Supply Mains were acquired in 0.554 of an acre of land in Arlington.

#### LOW SERVICE PIPE LINES

May 26 a contract was made with George M. Bryne for constructing a Low Service Pipe Line 48 inches in diameter and 4,400 feet in length in Boston Avenue in Somerville and Medford to connect the new Weston Aqueduct Supply Main with the existing low-service main in College Avenue. For this line, which is designated Section 51 of the Distribution System, cast-iron pipe was used, of which the contractor furnished 3,000 linear feet and the remainder was furnished from stock on hand in our pipe yards. The work was begun July 21; pipe laying was completed November 28, and the entire work was completed at the close of the year.

The total expenditure for this pipe line is \$161,469.12, all of which was expended during the year, and there are reserves held under current contracts amounting to \$10,475.76.

#### NORTHERN HIGH SERVICE PIPE LINES

July 30 a contract was made with Cenedella & Company for furnishing and laying a line of riveted steel pipes 38 inches in diameter southerly from the Fells Reservoir in Stoneham through the Middlesex Fells Reservation in Melrose, and in Fellsway East, Amerige Field and Highland Avenue to Elm Street in Malden, a distance of 7,300 feet. This line reinforces the existing line of 36-inch diameter cast-iron pipe. The work was begun August 3, and continued to the end of the year. During this time 1,885 linear feet of pipe was laid and 1,200 cubic yards of rock was excavated. The total expenditure for the pipe line is \$87,187.10 and reserves held under current contracts amount to \$10,331.47.



## SOUTHERN HIGH SERVICE PIPE LINE

Some preliminary work has been done for the proposed Southern High Service Pipe Line from Chestnut Hill Pumping Station to the Arborway near Centre Street in Jamaica Plain, known as Section 52 of the Distribution System.

The expenditures for this work amount to \$293.10.

## IMPROVEMENT OF SERVICE IN BELMONT AND WATERTOWN

For the improvement of the service in Belmont and Watertown connections were made between the new Weston Aqueduct Supply Main and the Belmont pipes in Pleasant Street, and an area of approximately 775 acres below elevation 100 has been supplied from the Weston Aqueduct since September 23.

Plans have also been made to supply an area of about 1,325 acres in Watertown below elevation 80 by a 30-inch branch line connecting with the new Weston Aqueduct Supply Main at Newton and Central Streets in Waltham. A connection has also been made between the Southern High Service Main and the city of Newton force main in Ward Street so that the pressure in the Meeting House Hill and Payson Park districts in Watertown and Belmont can be increased about 60 feet to improve the service in these districts.

## METERS AND CONNECTIONS

During the past year \$8,770.27 was expended for meters and connections, required on account of the construction of the new pipe lines.

## IMPROVING WACHUSETT WATERSHED

During the year \$2,994.34 has been expended for acquiring real estate in the Wachusett watershed, including 0.58 acre in Sterling and 11.4 acres in Holden.

## AUTHORIZED EXTENSION OF WORKS

The completion of the Weston Aqueduct Supply Mains, the construction of the 48-inch low-service main in Medford, northern high-service main in Malden and the new southern high-service main for Boston, improvement of service in Watertown and Belmont, the installation of additional meters and connections and the purchase of land for the protection of the water supply were authorized by chapter 302 of the Acts of 1925, which provides for a total expenditure of \$1,130,000 during the years 1925, 1926 and 1927, including the sum of \$400,000 received from the town of Brookline for admission to the Water District.

## MAINTENANCE

### PRECIPITATION AND YIELD OF WATERSHEDS

The precipitation on the watersheds varied more or less from normal, according to the locality; no marked variation common to all the watersheds is noted except the low precipitation in February and August and the high precipitation in March. The total precipitation for the year is 43.37 inches or 1.87 inches below the average on the Wachusett watershed; 45.64 inches or 1.11 inches above the average on the Sudbury watershed, and 43.99 inches or 1.13 inches below the average on the Cochituate watershed.

The average yields of the watersheds for the year in gallons per day per square mile were 854,000 or about 22 per cent below the average for the past 29 years on the Wachusett watershed, 797,000 or 18 per cent below the average for the past 51 years on the Sudbury watershed, and 772,000 or 17 per cent below the average for the past 63 years on the Cochituate watershed.

The city of Worcester did not discharge any water into the Wachusett Reservoir watershed from the area diverted in 1911 that was formerly tributary to the reservoir.



The capacities of the storage reservoirs of the Metropolitan Water Works, the elevation of the water surfaces and the quantity of water stored in each reservoir at the beginning and at the end of the year are shown by the following table:—

STORAGE RESERVOIRS	Eleva- tion <sup>1</sup> of High Water	Capacity (Gallons)	JAN. 1, 1925		JAN. 1, 1926	
			Eleva- tion <sup>1</sup> of Water Sur- face	Amount Stored (Gallons)	Eleva- tion <sup>1</sup> of Water Sur- face	Amount Stored (Gallons)
Cochituate Watershed:—						
Lake Cochituate <sup>2</sup> . . . . .	144.36	2,097,100,000	143.49	1,891,100,000	142.75	1,718,200,000
Sudbury Watershed:—						
Sudbury Reservoir . . . . .	260.00	7,253,500,000	258.17	6,491,700,000	256.30	5,730,600,000
Framingham Reservoir No. 1 . . . . .	169.32	289,900,000 <sup>3</sup>	167.65	214,000,000	167.79	220,000,000
Framingham Reservoir No. 2 . . . . .	177.87	529,900,000 <sup>3</sup>	177.49	545,900,000	177.66	553,300,000
Framingham Reservoir No. 3 . . . . .	186.74	1,180,000,000 <sup>3</sup>	184.00	979,400,000	185.23	1,077,500,000
Ashland Reservoir . . . . .	225.21	1,416,400,000	223.26	1,310,000,000	224.45	1,374,600,000
Hopkinton Reservoir . . . . .	305.00	1,520,900,000	302.93	1,392,400,000	304.13	1,466,500,000
Whitehall Reservoir . . . . .	337.91	1,256,900,000	337.38	1,153,600,000	336.66	1,015,200,000
Farm Pond . . . . .	159.25	167,500,000	158.16	109,600,000	159.55	183,700,000
Wachusett Watershed:—						
Wachusett Reservoir . . . . .	395.00	64,968,000,000	379.98	46,296,600,000	373.39	39,594,200,000
Totals . . . . .	—	80,680,100,000	—	60,384,300,000	—	52,933,800,000

<sup>1</sup> Elevation in feet above Boston City Base.  
<sup>2</sup> Excluding Dudley Pond which was abandoned April 3, 1916.  
<sup>3</sup> To top of flashboards.

The table shows the total storage which could be drained from the reservoirs. Special provisions would be necessary, however, to draw about 10,000,000,000 gallons of this storage for consumption, as it is below the outlet channels which can be conveniently used for regular service.

Wachusett Reservoir

At the beginning of the year there was 46 billion gallons of water in the Wachusett Reservoir, which had been drawn down 15 feet below elevation 395, the designed high-water line. By February 10 the water had been drawn down to elevation 375.89, which was the lowest stage reached before the reservoir began to fill from the spring rains. There was then 42 billion gallons of water stored in the reservoir. From February 10 to April 27 there was a continuous gain in storage, the water rising to elevation 386.19 and the quantity in storage increasing to 53½ billion gallons. This was the maximum for the year and also the smallest maximum for any year since the reservoir first filled in 1908. From April 27 to November 12 the water was drawn down at the rate of about 2½ feet a month, to elevation 369.60 or 25.4 feet below the normal full reservoir level, and the quantity of water in storage was reduced to 36 billion gallons. This was the lowest stage to which the reservoir had been drawn since it first filled in 1908. Rains during the latter part of November and in December raised the water to elevation 373.39 on January 1, 1926 and increased the quantity of water stored in the reservoir to 39.6 billion gallons.

In compliance with the requirements of section 14 of Chapter 92 of the General Laws 627,200,000 gallons of water was discharged into the Nashua River below the Wachusett Dam during the year.

Under the provisions of Chapter 348 of the Acts of 1923, the town of Clinton pumped 162,400,000 gallons of water from the reservoir into the town's distribution system. This is equivalent to an average draft of 445,000 gallons a day for the entire year. Pumping was continuous from January 1 to February 12, inclusive, and from April 29 to November 24, inclusive, Sundays and holidays excepted.

At the beginning of the year the city of Worcester was pumping water from the reservoir into high-service mains at its emergency pumping



station on the shore of the reservoir at South Bay in Boylston, under an extension of the authority granted October 18, 1923 and this pumping was continued through February 23. Under authority granted June 19 pumping was resumed on July 16 and continued daily through December 12 with the exception of about two weeks early in November, during which time the pumping plant and intake were extended to permit of pumping from the lower stage reached by the water in the reservoir. The total amount of water pumped from the reservoir during these two periods was 942,300,000 gallons, which is equivalent to an average draft of 2,582,000 gallons a day for the entire year.

The usual work of cutting and burning brush and weeds growing along about 38 miles of the margins of the reservoir, the sides of adjacent highways and along brooks and rivers which flow directly into the reservoir has been done at a cost of \$3,413.13.

Wire fences enclosing water works land were erected for a distance of 4.37 miles along property lines and highways in Boylston, West Boylston, Sterling and Clinton at a cost of about \$1,110 per mile exclusive of posts, which were obtained from the water works lands.

The riprap facing on the easterly portion of the North Dike, Clinton, for a length of about 130 linear feet, where originally built of stones too light to withstand the heavy wave action, has been reinforced with about 225 cubic yards of large rocks secured from the shore of the reservoir just westerly from the dam, at a cost of \$1,661.43 or about \$7.50 per cubic yard.

About 690 acres of the bottom of the reservoir above elevation 380, which had been exposed for two successive seasons and upon which there was a considerable growth of weeds and water grass, were cleaned by mowing, raking and burning at a cost of \$4,924.47 or about \$7.00 per acre. Of this area about 105 acres, where the growth was particularly rank and heavy, were harrowed with spring-tooth harrows before raking.

About 50 linear feet of the shore line of the reservoir where it joins the highway embankment around South Bay, Boylston, have been faced with about 90 square yards of slope paving 15 inches deep at a cost of \$193.31.

A wooden frame boat-house 14 feet wide by 34 feet long by 12 feet high, with concrete foundations 15 feet deep, has been constructed on the shore of the reservoir at Andrews harbor, Boylston, for the housing of the motor patrol boat, at a cost of \$3,081.21. A slip excavated in the sloping shore of the cove provides a means of access to the boat-house within a working range of the upper ten feet of the reservoir.

The work of cleaning, repairing and painting the cast-iron sluice gates and fittings in the four wells, each about 68 feet deep below the gate chamber, and the overhauling and repairing of the wooden stop planks, spacers and screens used in this chamber in connection with the control, regulation and screening of the water as it is drawn from the reservoir, was in progress at the close of the year. About one-half of the work has been done. The lower 2½-foot by 6-foot sluice gate in well No. 1 was found to be cracked transversely in two places and was repaired by inserting four tie-rods, each 1½ inches in diameter, lengthwise of the gate, thereby securely holding it together. The rest of the ironwork in the two wells already cleaned was found to be in very good condition. The hard pine wood in the stop-planks, spacers, screens and ladders, where alternately submerged in the water and exposed to the air, was so far deteriorated as to need replacing in about 25 per cent of the apparatus.

The structures at the Wachusett Dam, Clinton and Oakdale storage yards and the eight department houses in the Wachusett Section have been kept in repair. The buildings at the Kendall place, Boylston, the March place, Oakdale, and the Howe place, Sterling, were painted one coat on the outside and electric wires and lighting fixtures were installed in the Kendall house. A parcel of land on Boylston Street, Clinton, containing 0.17 of an acre, lying outside the limits of the watershed, was sold to Thomas Madigan.

Standing grass on about 270 acres of water works lands was sold, largely at auction, for the sum of \$782.



*Sudbury Reservoir*

The water in Sudbury Reservoir was kept on an average a little more than one foot below the crest of the overflow at the dam during the year, and the flashboards were not placed on the overflow at any time, in order to permit pointing the stone masonry on the crest and the face of the overflow.

With the exception of 15,800,000 gallons of water which passed over the overflow on February 12 and 13, due to a sudden yield of the watershed, all water drawn from the reservoir was used in generating electric energy at the Sudbury power station.

The usual care has been given to the reservoir margins and the walks, drives and grounds below the dam.

The upstairs tenement of the department house at the dam has been remodelled, new plumbing installed and the interior painted and papered.

The life buoys and holders around the reservoir, the row-boat used on the reservoir, the iron fences and manhole covers below the dam and the floor plates and ironwork in the head-house of the Weston Aqueduct have been painted.

*Framingham Reservoir No. 3*

All water supplied to the Metropolitan Water District has been drawn from Sudbury Reservoir and Framingham Reservoir No. 3. The water in these reservoirs has been maintained at the desired elevation by drawing water from the Wachusett Reservoir as needed. The water in Framingham Reservoir No. 3 reached its highest elevation in February and, with the exception of 181,500,000 gallons wasted into Framingham Reservoir No. 1, due to a sudden yield from the watershed, on February 12, 13 and 14, all water drawn from the reservoir was used to supply the Metropolitan Water District and the town of Framingham. Flashboards were kept on the overflow of the dam all the year.

The ironwork inside the gate-house, the shed below the dam and the boat-house were painted. The shores of the reservoir, the embankments and the grounds and shrubbery at the dam and other structures were cared for as usual. The lanes along property lines were kept clear of brush and sprouts and 2,224 linear feet of new wire fence was built, 561 feet of which was to replace old broken down fences.

*Framingham Reservoirs Nos. 1 and 2, Ashland, Hopkinton and Whitehall Reservoirs.*

No water was drawn for consumption from the 47 square miles of the South Sudbury watershed tributary to Framingham Reservoirs Nos. 1 and 2, Ashland, Hopkinton and Whitehall reservoirs, as the water is usually highly colored and not suitable for use without purification. Not less than 1,500,000 gallons of water a day has been wasted from Framingham Reservoir No. 1 into the Sudbury River below Dam No. 1, as required by Acts of 1872, chapter 177.

The ironwork in the gate-houses at Dams Nos. 1 and 2 and at the Ashland Dam was painted and 750 feet of new wire fence was erected on property lines around Framingham Reservoir No. 1.

The department house at Salem End Road in Framingham was painted inside and most of the rooms were papered.

In October and November the water in Framingham Reservoir No. 1 was lowered as much as possible, in order to permit inspection of the bed of the reservoir, and samples of mud and earth were obtained for analysis. The depth of mud was measured and the condition of the 48-inch pipe line noted, and test pits were dug to determine the quality and probable quantity of gravel that might be obtained there. The reservoir was allowed to fill again in December.

The Fountain Street bridge across part of Reservoir No. 2, which was built by the city of Boston and is maintained by this Commission, was found to be in an unsafe condition early in the year, and with the approval of the Selectmen of Framingham, was closed to travel while repairs were made. The



woodwork was all removed, heavier angle iron supports for the floor beams were riveted to the steel girders, new and heavier floor beams were erected and the ironwork was painted.

At Ashland Reservoir 270 feet of 2-rail plank fence was built across the channel below the dam and the brush and dead and broken trees on the east shore were cleared for a distance of about 1,400 feet above the dam.

At Hopkinton Reservoir the attendant's house was painted and at Whitehall Reservoir the grounds around the new gate-house were graded and seeded.

Between September 24 and October 1 the town of Hopkinton pumped 638,000 gallons of water direct from the reservoir to supplement its regular supply.

#### *Farm Pond*

No water was taken by the town of Framingham from Farm Pond during the year. Under rights reserved by legislation, the Boston & Albany Railroad took approximately 72,400,000 gallons of water and the New York, New Haven and Hartford Railroad took about 64,200,000 gallons of water from the pond for the use of locomotives.

#### *Lake Cochituate*

The elevation of water in Lake Cochituate was maintained between one and two feet below high-water mark most of the year. During July, August and September 710,300,000 gallons of water were taken from the lake for the supply of the Metropolitan Water District.

About 1,200 feet of 2-rail plank fence was built along West Pond Street and about 600 feet of wire fence adjoining Lake View Cemetery in Cochituate. The ironwork in the gate-house was painted and the grounds cleaned. Brush and sprouts were cut along property lines and the catch basins and surface drains were cleaned.

### AQUEDUCTS

#### *Wachusett Aqueduct*

Water was drawn from the Wachusett Reservoir through the Wachusett Aqueduct on 270 days. The total time that the aqueduct was in use is equivalent to 121 days, 9 hours and 55 minutes. The total quantity of water discharged was 38,399,500,000 gallons, equivalent to an average of 105,204,000 gallons per day for the entire year. All of the water, with the exception of 24,500,000 gallons used for filling the open channel after repairs, was used to generate electric energy at the power station before being discharged into the aqueduct.

The Westborough State Hospital pumped 70,128,000 gallons of water from the aqueduct at the terminal chamber during the year, or an average of 192,000 gallons per day.

In constructing the open channel portion of the aqueduct in 1896 ten open watering places were provided for cattle feeding in adjacent pastures. These watering places proved to be unsatisfactory and in 1922, as an experiment, two of them were reconstructed to provide for their rapid filling each morning with fresh water from the channel and the filtering of the contaminated water before returning to the channel at the close of the day. As these proved satisfactory, the remaining eight watering places were rebuilt this year. In connection with this work 16 wooden bridges were replaced with concrete or iron pipe culverts and three other wooden bridges were abandoned, thereby eliminating all of the wooden bridges along the open channel portion of the aqueduct. Old stone walls were removed and used for filling at the culverts and in facing the shore of the channel for a length of 1,100 feet, and in place of the walls, 1,555 linear feet of wire fencing was erected around the watering places and along a stretch of 990 feet of the aqueduct land.

Brush, grass and weeds were mowed and disposed of for a distance of 10 miles along the aqueduct, at a cost of about \$240 per mile.



*Sudbury Aqueduct*

The Sudbury Aqueduct was in continuous service during the year except for 8 hours on July 6 and 6½ hours on November 27, and 20,481,300,000 gallons of water was drawn through the aqueduct from Framingham Reservoir No. 3 during the year, of which 504,000,000 gallons was pumped by the town of Framingham and 4,100,000 gallons was delivered to Lake Cochituate. The remainder, amounting to 19,973,200,000 gallons was delivered to Chestnut Hill Reservoir, an average of 54,721,096 gallons per day.

The ironwork in the pipe chambers, the fences at Waban and Echo bridges and all the manhole covers along the aqueduct were painted and a new fence was built at Hollis Street, Framingham.

*Weston Aqueduct*

The Weston Aqueduct is not usually in service on Sundays and holidays, but this year as many of the holidays came at the end of the week, it was necessary to operate the aqueduct several times on such days. Water was drawn from the Sudbury Reservoir into the aqueduct on 319 days, the total time that the aqueduct was in service being 219 days, 12 hours and 4 minutes, and the total quantity of water drawn was 24,577,000,000 gallons, or an average of 67,334,247 gallons per day.

The iron and wood work in the head-house, gaging and siphon chambers and the manhole covers along the aqueduct were painted. Culverts were cleaned and brush and weeds cut and burned. At Nobscot the house was painted, new wire fence 758 feet in length was built and 279 old fence posts were replaced with new ones.

*Cochituate Aqueduct*

The Cochituate Aqueduct was in service from July 18 to August 21 and from September 21 to October 2, and 710,300,000 gallons of water were delivered through it to Chestnut Hill Reservoir, or an average of 1,946,027 gallons per day.

On October 9 the aqueduct was drained and 9,400,000 gallons of water was wasted into the Charles River. An inspection was then made of the entire length of the aqueduct, points of leakage into the aqueduct were noted and samples taken of the water entering the aqueduct and biological analyses made of the quality of the water. Many small roots, chiefly of elm and willow trees, were removed from the aqueduct and many of the leaks were stopped by cement mortar and wooden wedges.

The ironwork in the pipe chambers, waste-weirs and the manhole covers along the aqueduct were painted, and grass and weeds on both sides of the aqueduct were cut and burned.

## PROTECTION OF WATER SUPPLY

A sanitary inspector, two watershed inspectors and three watchmen were employed throughout the year to inspect the condition of premises on the watersheds and ice cutting operations and to prevent pollution of the water in the reservoirs, and in the obtaining of information for a sanitary census which is taken every five years.

The following tables contain a summary of the sanitary inspections and of the sanitary census by districts for 1925; also a summary of the sanitary census of 1920 for each watershed for comparison.

Summary of Sanitary Inspections on the Wachusett Watershed in 1925

DISTRICT	Number of Premises Inspected	CLASSIFICATION OF CASES INSPECTED <sup>1</sup>										CONDITION AT END OF YEAR			
		Cesspools dug before 1925	Cesspools dug during 1925	Direct Privy Drainage	Indirect Privy Drainage	Direct Sink Drainage	INDIRECT SINK DRAINAGE		BARN DRAINAGE		Manufacturing Wastes	Premises Vacant	No Drainage	Drainage carried to Filter-beds	Satisfactory
French Brook	71	55	4	-	-	-	7	-	18	-	5	1	-	71	-
Muddy Brook	50	34	2	-	-	-	11	-	19	-	2	1	-	50	-
Gates Brook	294	244	4	-	-	-	19	-	36	-	20	5	-	294	-
Malden Brook	34	19	4	-	-	-	7	-	16	-	2	2	-	34	-
Chaffin Brook	315	221	23	-	-	-	53	1	66	1	15	2	-	313	2
Asnebumskit Brook	233	196	6	-	2	3	11	3	20	1	9	7	1	226	7
Muschopauge	125	81	-	-	-	-	38	-	48	-	2	4	-	124	1
South Wachusett Brook	91	54	1	-	-	-	27	-	38	-	7	2	-	91	-
Trout Brook	37	13	-	-	-	-	17	-	22	-	6	1	-	37	-
East Wachusett Brook	207	114	1	-	-	-	67	-	71	-	17	8	-	207	-
Stillwater River	136	71	1	-	-	-	48	-	62	-	5	10	1	136	-
Wachusett	328	231	3	-	-	-	58	2	46	-	24	10	100	326	2
French Hill	40	32	-	-	-	-	2	-	14	-	3	3	-	40	-
Totals	1,961	1,365	49	-	2	3	365	6	476	-	117	56	102	1,949	12

<sup>1</sup> On some premises there are two or more cases.



Summary of Sanitary Inspections on the Sudbury and Cochituate Watersheds in 1925

DISTRICT	Number of Premises Inspected	CLASSIFICATION OF CASES INSPECTED <sup>1</sup>										CONDITION AT END OF YEAR					
		Sewer Connections	Cesspools dug before 1925	Cesspools dug during 1925	Direct Privy Drainage	Indirect Privy Drainage	Direct Sink Drainage	INDIRECT SINK DRAINAGE		BARN DRAINAGE		Manufacturing Wastes	Premises Vacant	No Drainage	Drainage carried to Filter Beds	Satisfactory	Unsatisfactory
								Satisfactory	Unsatisfactory	Satisfactory	Unsatisfactory						
Sudbury Watershed																	
Farm Pond	362	347	3	1	-	-	-	-	-	5	-	-	8	3	-	362	-
Framingham Reservoir No. 3	105	-	77	1	-	-	-	11	-	28	-	-	14	1	-	105	-
Stony Brook	321	-	282	2	-	-	-	15	-	78	-	-	15	5	2	319	-
Angle Brook	2,261	1,869	234	4	-	-	-	35	2	94	2	1	80	19	2,012	2,261	-
Framingham Reservoirs Nos. 1 and 2 and Cold Spring Brook	378	-	308	1	-	-	-	39	-	83	-	-	28	2	-	378	-
Eastern Sudbury	265	-	242	-	-	-	-	8	1	18	-	1	9	4	1	263	2
Indian Brook	405	-	287	5	-	-	-	79	5	38	1	1	26	2	-	398	7
Western Sudbury	195	-	135	3	-	-	-	37	-	44	-	1	13	7	-	194	1
Whitehall Reservoir	201	-	78	-	-	-	-	76	1	34	-	-	43	3	-	200	1
Cedar Swamp	803	547	210	3	-	-	-	22	-	89	-	-	16	3	-	803	-
Totals	5,296	2,765	1,806	20	-	-	-	322	9	511	5	4	252 <sup>2</sup>	49	2,015	5,283	13
Cochituate Watershed																	
Snake Brook	341	-	275	11	-	-	-	31	-	26	-	-	23	1	-	341	-
Pegan Brook	1,212	860	270	1	-	-	-	22	-	20	-	-	48	6	1,111	1,212	-
Course Brook	204	2	163	3	-	-	-	15	-	26	1	-	19	2	-	203	1
Beaver Dam Brook	2,155	1,557	419	10	-	-	-	31	1	83	-	1	113	16	1	2,153	2
Totals	3,912	2,419	1,127	25	-	-	-	99	1	155	1	1	203 <sup>3</sup>	25	1,112	3,909	3

<sup>1</sup> On some premises there are two or more cases.  
<sup>2</sup> Eighty-six of these premises connected with the public sewer.  
<sup>3</sup> Sixty-seven of these premises connected with the public sewer.

Wachusett Watershed — Sanitary Census by Districts for 1925 and for entire Watershed for 1920 and 1925.

DISTRICT	PREMISES							POPULATION			DOMESTIC ANIMALS					
	Number on which there are Dwellings occupied throughout the Year	Summer Dwellings	Number on which there are Stores or other Buildings but no Dwellings	Vacant	Total Number	Having Public Water Supply	Having Private Water Supply	Having no Water Supply	Area (Square Miles including Water Surface)	Permanent	Summer	Permanent per Square Mile	Horses	Cattle	Sheep	Swine
French Brook . . . . .	55	6	5	5	71	4	61	1	7.30	236	28	32.3	31	274	6	11
Muddy Brook . . . . .	43	2	3	2	50	-	47	1	3.41	195	57	57.2	29	122	-	6
Gates Brook . . . . .	255	2	17	20	294	6	263	5	3.93	1,204	7	306.4	52	104	4	27
Malden Brook . . . . .	26	4	2	2	34	5	25	2	3.05	129	26	42.3	24	68	-	12
Chaffin Brook . . . . .	286	4	10	15	315	194	104	2	10.56	1,341	24	127.0	81	208	-	84
Asnebumskit Brook . . . . .	196	5	23	9	233	210	7	7	3.61	1,128	289	312.5	30	40	1	16
Muschopauge . . . . .	101	14	8	2	125	15	104	4	11.88	548	127	46.1	79	250	-	44
South Wachusett Brook . . . . .	57	23	4	7	91	-	82	2	11.33	248	109	21.9	55	248	128	56
Trout Brook . . . . .	30	-	1	6	37	-	30	1	7.65	126	-	16.5	27	103	-	14
East Wachusett Brook . . . . .	146	32	12	17	207	-	182	8	20.88	573	244	27.4	124	407	3	31
Stillwater River . . . . .	115	5	11	5	136	-	121	10	11.87	581	24	48.9	87	439	-	47
Waushacum . . . . .	164	125	15	24	328	-	294	10	7.70	697	551	90.5	73	378	127	89
French Hill . . . . .	34	-	3	3	40	-	34	3	5.67	167	-	29.5	12	40	-	5
Totals for 1925 . . . . .	1,508	222	114	117	1,961	434	1,354	56	108.84	7,173	1,486	65.9	704	2,681	269	442
Totals for 1920 . . . . .	1,295	255	98	86	1,734	309	1,284	55	108.84	6,162	1,331	56.6	828	3,415	448	1,143



Sudbury and Cochituate Watersheds — Sanitary Census by Districts for 1925 and for Each Watershed for 1920 and 1925.

DISTRICT	PREMISES										POPULATION				DOMESTIC ANIMALS				
	Number on which there are Dwellings occupied throughout the Year	Summer Dwellings	No. on which there are Stores or Other Buildings but no Dwellings	Vacant	Total Number	Connected with Sewer	Having Public Water Supply	Having Private Water Supply	Having No Water Supply	Area (Square Miles including Water Surfaces)	Permanent	Summer	In Dwellings not connected with Sewer		Horses	Cattle	Sheep	Swine	
													Total	Per Square Mile					
<i>Sudbury Watershed</i>																			
Farm Pond . . . . .	305	-	49	8	362	347	351	-	3	0.54	1,957	-	19	35.2	28	-	-	-	-
Framingham Reservoir No. 3 . . . . .	85	4	2	14	105	-	-	90	1	5.35	358	8	358	66.9	71	297	-	-	-
Stony Brook . . . . .	281	4	21	15	321	-	-	301	5	13.29	1,432	22	1,432	107.8	156	812	-	-	-
Angle Brook . . . . .	2,035	-	146	80	2,261	1,869	2,066	96	19	9.16	12,310	4	1,489	162.6	161	282	1	-	64
Framingham Reservoirs Nos. 1 and 2, and Cold Spring Brook . . . . .	337	5	8	28	378	-	199	149	2	11.72	1,588	103	1,588	135.5	131	282	-	-	11
Eastern Sudbury . . . . .	225	6	25	9	265	-	228	24	4	3.11	1,181	32	1,181	379.7	20	22	-	-	126
Indian Brook . . . . .	354	5	20	26	405	-	304	73	2	7.17	1,520	6	1,520	212.0	44	112	-	-	17
Western Sudbury . . . . .	171	1	10	13	195	-	-	175	7	7.85	661	4	661	84.2	52	167	-	-	-
Whitehall Reservoir . . . . .	94	59	5	43	201	-	58	97	3	7.61	337	187	337	44.3	40	137	-	-	12
Cedar Swamp . . . . .	738	2	47	16	803	547	735	49	3	9.40	3,598	43	1,054	112.1	140	485	-	-	79
Totals for 1925 . . . . .	4,625	86	333	252	5,296	2,763	3,941	1,054	49	75.20	24,942	409	9,639	128.2	843	2,596	1	323	
Totals for 1920 . . . . .	4,300	99	310	227	4,936	2,498	3,604	1,016	89	75.20	23,033	478	8,954	119.1	1,126	2,885	24	928	
<i>Cochituate Watershed</i>																			
Snake Brook . . . . .	235	82	1	23	341	-	306	11	1	3.58	967	260	967	270.1	29	148	-	-	8
Pegan Brook . . . . .	1,074	9	81	48	1,212	860	1,157	1	6	2.24	5,464	31	1,249	557.6	43	88	7	-	-
Course Brook . . . . .	176	3	6	19	204	2	135	48	2	3.61	1,047	7	764	211.6	42	264	-	-	3
Beaver Dam Brook . . . . .	1,908	17	117	113	2,155	1,557	1,838	188	16	8.15	13,230	82	2,213	271.5	166	235	17	-	20
Totals for 1925 . . . . .	3,393	111	205	203	3,912	2,419	3,436	248	25	17.58	20,708	380	5,193	295.4	280	735	24	31	
Totals for 1920 . . . . .	2,911	104	193	104	3,312	2,162	2,926	237	45	17.58	17,756	326	4,036	229.6	382	756	20	520	



Filters have been operated at Sterling, Sterling Junction, West Boylston, Marlborough and Natick throughout the year to prevent pollution of the water supply at these places, and any large flows of surface water in excess of the capacity of the filters was sterilized with calcium hyperchlorite before it entered the reservoirs.

The pumping station and filters at Pegan Brook, used for purifying the water of Pegan Brook in Natick before it enters Lake Cochituate, have been operated when necessary during the year. The pumping station was operated on 175 days and 259,863,000 gallons of surface water was pumped to the filter-beds, or an average of 711,953 gallons per day for the entire year. The cost of operating the station, including the care of the grounds and filter-beds, was \$5,931.76, or at the rate of \$22.83 per million gallons pumped and filtered.

The usual work of cleaning out the ditches, culverts and watering places and mowing the weeds and brush for a distance of 10 to 20 feet on either side was done along 37 miles of ditches at a cost of \$5,750.

Along the drainage ditches 275 square yards of paving, 1,348 feet of bottom boards and 1,150 feet of corner pieces were relaid, 8 new bridges were built and 2 old bridges repaired.

Two parcels of land, with cottages, containing 0.58 of an acre, on the west shore of Middle Waushacum Pond in Sterling, were purchased from Mary E. Lee and Anne J. Coughlin, and a parcel of land on River Street in Holden, containing 11.40 acres, was purchased from N. Marion Worcester.

#### CLINTON SEWAGE DISPOSAL WORKS

The works for disposing of the sewage of the town of Clinton were operated on 365 days, as required by chapter 557 of the Acts of 1898. The sewage was pumped to the filter-beds and averaged 1,413,000 gallons per day. The cost of operating the pumping station was \$2,660.65 or \$0.103 per million foot gallons of sewage pumped, about 47 per cent of the cost being for labor. The cost of operating the filters was \$9,844.71 or at the rate of \$19.088 per million gallons of sewage disposed of.

#### FORESTRY

In the Wachusett Section 27,000 white, red, Scotch and Austrian pines 2 to 4 years old and white spruce seedlings were planted on 23 acres of water works land along the open channel of the Wachusett Aqueduct in Marlborough and Southborough and on the margins of the Wachusett Reservoir in Boylston, West Boylston and Sterling.

In the Sudbury Section 16,100 white pines and 3,400 spruces 3 to 4 years old were set out in new plantings and 3,300 pines and 4,000 spruces were used to replace trees that had failed in previous years.

There are now about 45,000 plants in the Wachusett Section nursery, and about 15,000 in the Sudbury Section nursery.

The marginal fire guards and forest roads from 15 to 45 feet in width were mowed for a length of 60 miles in the Wachusett Section and of 16 miles in the Sudbury Section.

The usual work was done to protect the plantings from the pine tree weevil and trees on selected areas from insects. The total expenditure for forestry for the year is \$29,000, of which \$1,800 was expended for protecting the trees from insects.

A parcel of water works land, containing about 25 acres, at the Clinton-Sterling town line was assigned to the Department of Conservation, Forestry Division, to be used by them as a nursery.

The cutting of standing chestnut timber and intergrown white pine and hardwood trees on about 825 acres of Wachusett Reservoir land, which was begun by the Wilder, Walker & Davis Company of Sterling, December 20, 1923, has been in progress throughout the year, and in accordance with the terms of the contract \$9,650 has been paid by the Company to date. This work was nearly completed at the close of the year.



HYDROELECTRIC SERVICE

During the year 12,127,400 kilowatt hours of electric energy were delivered from the hydroelectric stations operated by water drawn from the Wachusett and Sudbury reservoirs. The total value of this energy at contract prices, including rentals of \$139 for transmission line locations, is \$69,436.26. The total expense charged to operation of both stations and transmission lines is \$45,683.30, leaving a profit from the operation of the stations of \$22,752.96, equivalent to \$1.876 profit per thousand kilowatt hours. Of the total energy delivered from both stations this year 26,346 kilowatt hours of energy, for which \$164.64 was received, were generated with water wasted from the reservoirs and not required for water supply.

Wachusett Service

Repairs have been made to two of the 48-inch hydraulic gates in the penstock lines at a cost of \$1,074. The submerged centrifugal pump in the pump well has been overhauled and repaired. A 3-inch water service has been laid to the power station from the town of Clinton's water pipe in Boylston Street, a distance of 410 feet, at a cost of \$412.04. The usual repairs to the generating apparatus and the transmission lines, rendered necessary by electrical storms, have been made as required.

The Wachusett power station was operated on 269 days. The statistics for the year 1925 are as follows: —

Total energy developed (kilowatt hours)	.	.	.	7,298,500
Energy used at power station (kilowatt hours)	.	.	.	178,193
				<hr/>
Available energy (kilowatt hours)	.	.	.	7,120,307
Water used (gallons)	.	.	.	38,375,000,000
Average head (feet)	.	.	.	83.7
Energy developed per million foot gallons (kilowatt hours)	.	.	.	2.272
Efficiency of station (per cent)	.	.	.	72.31
Credits:				
Energy sold New England Power Company				
and Edison Electric Illuminating Com-				
pany, 6,931,309 kilowatt hours at				
\$0.0053				\$36,735.94
Deduction of 2 per cent as provided				
in contract, 138,626 kilowatt hours				
at \$0.0053				734.72
				<hr/>
				\$36,001.22
Energy furnished Clinton Sewerage Pumping				
Station, 188,998 kilowatt hours at \$0.0053				
				1,001.69
Rental, transmission line location.				139.00
				<hr/>
				\$37,141.91
Charges:				
Superintendence				
				\$1,217.36
Labor, operating station				
				11,147.44
Repairs and supplies:				
Power station				
				\$1,543.86
Transmission line				
				123.01
				<hr/>
				1,666.87
				<hr/>
				\$14,031.67
Taxes				
				2,725.00
Administration, general supervision, interest				
and sinking fund				
				9,232.17
				<hr/>
Profit				\$11,153.07
Cost of available energy per thousand kilowatt hours				\$3.65



*Sudbury Service*

The Sudbury Power Station was in service on 319 days, 47 with three shifts, 267 with two shifts and 5 with one shift of 8 hours each. With the exception of 15,800,000 gallons of water wasted over the Sudbury Dam in February, all water drawn from the Sudbury Reservoir was used to generate electricity.

Statistics for the year 1925 are as follows:—

Total energy developed (kilowatt hours)	.	.	.	5,017,480
Energy used at power station (kilowatt hours)	.	.	.	10,387
				<hr/>
Available energy (kilowatt hours)	.	.	.	5,007,093
Framingham Reservoir No. 3 service:				
Water used (gallons)	.	.	.	21,405,000,000
Average head (feet)	.	.	.	64.80
Weston Aqueduct service:				
Water used (gallons)	.	.	.	24,577,000,000
Average head (feet)	.	.	.	37.67
Energy developed per million foot gallons (kilowatt hours)				2.169
Efficiency of station (per cent)	.	.	.	69.1
Credits:				
Energy sold Edison Electric Illuminating Company of Boston, 5,007,093 kilowatt hours at \$0.00625	.			\$31,294.35
Charges:				
Superintendence	.	.	.	\$1,269.48
Labor, operating station	.	.	.	11,122.31
Repairs and supplies	.	.	.	524.27
				<hr/>
				\$12,916.06
Taxes	.	.	.	1,785.60
Administration, general supervision, interest and sinking fund	.	.	.	4,992.80
				<hr/>
Profit	.	.	.	\$11,599.89
Cost of available energy per thousand kilowatt hours	.	.	.	\$3.933

## DISTRIBUTION PUMPING STATIONS

The total pumpage at the five distribution pumping stations during 1925 was 34,878,378,000 gallons; about 1.3 per cent more than in 1924. The cost of operating all of the pumping stations for the year 1925 was \$204,458.23 which is comparable with a cost of \$197,576.19 in 1924.

At the beginning of the year there were 1,100 net tons of bituminous coal and 550 net tons of anthracite screenings stored at the pumping stations. During the year 9,438 net tons of bituminous coal and 2,756 net tons of anthracite screenings were received. At the close of the year 1,800 net tons of bituminous coal and 80 net tons of anthracite screenings were on hand at the pumping stations.

At Chestnut Hill Station No. 1 miscellaneous repairs were made on all of the engines. The Corliss valves on the high pressure and intermediate pressure cylinders of engine No. 4 were cleaned and oiled, the jacket piping was rearranged and connected to the auxiliary heater of engine No. 16 and snifting valves were connected to the pump discharge air chamber to eliminate use of independent air pump. Most of the pumping at this station was done with the new engine, No. 16, installed in 1922. The low pressure cylinder exhaust valves were spot babbitted to keep them on the seats; steel wedges were installed in the high pressure and low pressure bearings in place of the cast-iron wedges furnished by the builder, and the main bearings, cross heads and connecting rod bearings were fitted with oil sight feed. As the Massey governor furnished with this engine had not operated satisfactorily the springs were replaced with lever arms and weights and the dash pot piping was rearranged, and since these changes were made the governor has operated in a satisfactory manner. All of the boilers and the economizers at this



station were inspected regularly, and heating surfaces were kept clean and external parts were carefully insulated. A new steel door was set in the chimney soot chamber.

At Chestnut Hill Station No. 2 pump valves and springs were renewed in the main pumps of engines Nos. 5, 6 and 7, air pump valves were renewed and the condensers were washed out. Valve gear, dash pots and bearings of engine No. 12 were repaired and extension rods were carried up through the floor from the pump plunger chamber drain valves so that they can be operated by the engineer from the engine room floor. A rustless steel bushing was fitted to the wedge of No. 8 hydraulic gate valve to hold the stem, which had pulled out, in position. Bearings, governors and oiling systems for both electric lighting dynamo engines were repaired and the exhaust from both engines was connected to the station heating system. The boilers and economizers at this station were inspected regularly and heating surfaces were kept clean. A few fire cracks were electrically welded in several of the boilers and 52 solid stay bolts in boilers Nos. 15 and 16 were replaced with flexible stay bolts.

At Spot Pond Station minor repairs have been made on engines Nos. 8 and 9. The new engine, No. 17, has been operated a large portion of the time since it was put into service on January 8 and the electric wiring and lighting fixtures have been installed thereon. The turbo electric lighting generator was moved from the boiler room to the engine room; the independent boiler feed pump was overhauled and the boilers and economizer were inspected regularly and heating surfaces were kept clean.

At Arlington Station the governor of engine No. 10 was fitted with new pins, spindle and drive shaft. The dynamo engine was repaired and the boilers have been inspected regularly and necessary repairs have been made. Since October 26, 1925, water has been supplied to this station from the new Weston Aqueduct Supply Main, reducing the lift about 30 feet.

At Hyde Park Station the usual miscellaneous repairs have been made on engines and boilers.

Chestnut Hill Shops. Further alterations have been made in the old stable at Chestnut Hill and the entire building is now used for blacksmith, carpenter and machine shops, which have been provided with steam heat, hot water and compressed air from Station No. 2 through an underground conduit. This is a very convenient arrangement as the shops are located midway between the pumping stations and include complete equipment for all classes of repair work, required by the Division.

The station duties based on plunger displacement and with no allowance for steam used for heating and lighting have averaged as follows: —

Chestnut Hill Station No. 1, 117,834,000 foot pounds per 100 pounds of mixed coal averaging 14,050 British thermal units per pound.

Chestnut Hill Station No. 2, 136,641,000 foot pounds per 100 pounds of mixed coal averaging 14,000 British thermal units per pound.

Spot Pond Station, 107,434,000 foot pounds per 100 pounds of mixed coal averaging 13,770 British thermal units per pound.

Arlington Station, 69,015,000 foot pounds per 100 pounds of mixed coal averaging 13,550 British thermal units per pound.

Hyde Park Station, 59,815,000 foot pounds per 100 pounds of mixed coal averaging 13,260 British thermal units per pound.



DISTRIBUTION RESERVOIRS

The locations, elevations and capacities of the distribution reservoirs of the Metropolitan Water Works are shown by the following table: —

DISTRIBUTION RESERVOIRS AND LOCATIONS	Elevation of High Water <sup>1</sup>	Capacity in Gallons
Low Service:		
Spot Pond, Stoneham and Medford	163.00	1,791,700,000
Chestnut Hill Reservoir, Brighton district of Boston	134.00	300,000,000
Weston Reservoir, Weston	200.00	200,000,000
Mystic Reservoir, Medford	157.00	26,200,000
Northern High Service:		
Fells Reservoir, Stoneham	271.00	41,400,000
Bear Hill Reservoir, Stoneham	300.00	2,450,000
Northern Extra High Service:		
Arlington Reservoir, steel tank, Arlington	442.50	2,000,000
Southern High Service:		
Fisher Hill Reservoir, Brookline	251.00	15,500,000
Waban Hill Reservoir, Newton	264.50	13,500,000
Forbes Hill Reservoir, Quincy	192.00	5,100,000
Forbes Hill Standpipe, Quincy	251.00	330,000
Southern Extra High Service:		
Bellevue Reservoir, steel tank, West Roxbury district of Boston	375.00	2,500,000
Total	—	2,400,680,000

<sup>1</sup> Elevation in feet above Boston City Base.

By arrangement with the city of Chelsea a portion of the maintenance of its reservoir on Powder Horn Hill is assumed by the Metropolitan Water Works, and the reservoir is used when necessary in connection with the northern high-service supply. This reservoir has a capacity of 1,000,000 gallons with high-water line at elevation 196.6. The reservoir was in service from January 1 to April 2 and from December 19 to the end of the year. The remainder of the year it was kept full for emergency use.

The city of Malden standpipe on Waitt's Mount, which is under the care and control of the Division, was filled April 27 and was kept full the rest of the year. Its capacity is 1,120,000 gallons with high-water line at elevation 250.

With the exception of 3 hours, on October 27, the Mystic Reservoir was not in service, but was kept full for emergency use. Repairs were made to the damaged sections of the iron fence around the reservoir, following a July 4th celebration, and three new sections were used to replace the more badly damaged sections. Water in the Upper Mystic Lake was kept near high-water line, except when drawn down to care for heavy flows expected from the watershed.

At Arlington Reservoir the grounds were fertilized and seeded. The masonry tower was open to the public, under the supervision of the Metropolitan Park Police, on Sundays and holidays between 2 o'clock and sunset from May 30 to December 1.

In May at the southerly end of Spot Pond a path was cleared on water works land, 1,960 feet in length, between Main Street and Woodland Road, and during the month of October a path 1,840 feet in length was built along the easterly side of the pond between the boat-house and Half Mile Road. In order to keep surface water from the pond the embankment along the path at Woodland Road and Pond Street, near Short Beach, was raised.

Under Acts of 1924, chapter 240, loaded as well as blank cartridges were fired to drive away gulls and other birds from Spot Pond and Chestnut Hill Reservoir, but no birds were killed during the year at either place.

The Park Division was paid \$1,128.25 for police service at Spot Pond and \$4,635.29 for police service at Chestnut Hill Reservoir.

Bradlee Basin of Chestnut Hill Reservoir was in service throughout the year and the Lawrence Basin between May 8 and June 2, July 19 and August 21, and from September 21 to October 2.

The gate stems of the sluice valves in the intermediate gatehouse at Chestnut Hill Reservoir, which have been in service more than 50 years, were



found to be badly corroded and have been removed and will be replaced with rustless steel stems.

The drives around Chestnut Hill pumping stations and the drive between the Lawrence and Bradlee basins were resurfaced and 3,983 square yards of the roadway were given a 2-inch coat of penetrated asphalt macadam, and 7,365 square yards were given a surfacing of liquid asphalt and pea stone, under a contract with Ezekiel C. Sargent of Quincy at a cost of \$6,151.14.

At Waban Hill Reservoir the Ward Street bank was spaded and all the banks were spread with fertilizer. At Fisher Hill Reservoir the old broken down wooden fence on the property lines has been removed and will be replaced with a new wire fence supported by reinforced concrete posts which have been made by the department and delivered on the ground.

The Forbes Hill standpipe has been in service throughout the year and the Forbes Hill Reservoir has been kept full ready for emergency use. New doors were built and placed in the gate-house and a new shut-off installed on the overflow.

Bellevue Reservoir was in service all the year. The tower was kept clean and opened to the public on Sundays and holidays, under supervision of the Parks Division, from May 30 to December 1.

At Weston Reservoir new copper float was installed in the screen chamber and considerable work was required at certain seasons of the year to keep the leaves from blocking the screens.

The grounds and structures at all of the distribution reservoirs have been given the necessary attention to keep them in good condition and the sluice gates and screens have been operated as required to maintain satisfactory service.

#### DISTRIBUTION BUILDINGS AND GROUNDS

Repairs have been made to roofs and gutters of the terminal, screen and channel chambers of the Weston Aqueduct. Alterations have been made in the building at Chestnut Hill Reservoir formerly used as a stable which has now been converted into a carpenter and machine shop. New doors and windows have been installed, the entire interior painted, concrete floor laid in the basement and the building has been furnished throughout with electric lights.

In November a contract was made with Everett F. Penshorn of Boston for repairs to the roofs and gutters of water works buildings at the Mystic shops and reservoir, and at the end of the year the work was about 65 per cent completed.

Repairs to the roofs of the buildings at Spot Pond, which were started in 1924, were completed early in the spring. At the Glenwood yard the portion of the main building formerly used as a stable has been converted into a garage, with men's room and toilet rooms. A fire door was installed in the storage room over the garage and one room was finished off as a meter repair room. New deadmen were set for the derrick in the pipe yard and recording pressure gages were installed on the high service and low service systems.

New gates were set in the fence adjoining the side track at Arlington Station and repairs were made to the fence around the grounds at the Hyde Park Station.

#### DISTRIBUTION PIPE LINES

Special measures have been taken at different times during the year to improve conditions of low pressure that occurred in Swampscott, Nahant, Quincy, Belmont and Watertown. Between November 16 and January 1, the town of Marblehead was supplied with 20,100,000 gallons of water from the Metropolitan Works through the Swampscott system as an emergency supply while repairs were being made to the pump well at the Marblehead pumping station.

The 24-inch Mystic main laid in 1864 between Mystic Reservoir and the Charlestown line, about 14,087 feet in length, was cleaned during October and November under a contract with the National Water Main Cleaning Company.



The wire fence around water works land at the Commonwealth Armory in Brighton, which was removed last year, has been replaced with a 2-rail 1½-inch iron pipe fence.

A connection between the Newton emergency pumping unit in Ward Street and the 36-inch southern high-service Metropolitan Water Works main was completed in May and it is now possible by means of this unit to furnish more adequate pressure to the higher portions of Belmont and Watertown.

Tests were made to determine the leakage under certain pressures of a portion of the old Cambridge Water Works 30-inch cast-iron main in Waltham and Watertown, which it was thought it might be desirable to use as a portion of a connecting branch line between the Weston Aqueduct Supply Mains in Waltham and the low-service distribution system of the town of Watertown.

The portion of the 60-inch Weston Aqueduct Supply Main between the terminal chamber in Weston and Brighton Street in Belmont, a distance of about 39,000 feet, which has been under construction for more than a year, was put into service on September 23, supplying a part of the town of Belmont, and the remainder of the line, as far as Massachusetts Avenue in Arlington, was put in service October 26, delivering 5,000,000 gallons of water per day.

Repairs have been made to pipe boxes at the Chelsea North Bridge, the Fox Hill Bridge at the Lynn and Saugus line and the Pines River Bridge at the Revere-Saugus line.

There were three breaks in Metropolitan Water Works main pipes during the year; one at the blow-off at Pines River, which was frozen; one at Atlantic Avenue, Revere, and one at Washington Street, Lynn, both of which were probably caused by electrolysis. There were 47 leaks discovered in the Metropolitan mains during the year, which were repaired at a total cost of \$3,249.76. Of this number 11 were at defective wooden joints, the cost of repairing which was \$745.46. Of the remainder 32 were lead joints in cast-iron mains, 3 in the 10-inch kalamine pipe purchased from Swampscott in 1909, and one in 60-inch lockbar steel pipe.

There are now 74 Venturi meters from 6 to 60 inches in diameter in the distribution pipe lines. Sixty-three of these are on supplies to various towns in the Metropolitan Water District, 3 on Western Aqueduct Supply Mains, 1 each at the Hyde Park, Spot Pond and Arlington pumping stations and on emergency connections to Cambridge, Newton and Wakefield, one between the Fisher Hill force main and the Spot Pond mains and one on the Clinton Road line in front of effluent gate-house No. 1 at Chestnut Hill Reservoir.

The nine pressure regulating valves in the distribution mains, for reducing the pressure of the water supplied to Nahant, Revere, Swampscott and Winthrop and to portions of Chelsea, East Boston and Hyde Park have given satisfactory service.

Recording pressure gages have been maintained at 24 stations on the distribution system and tables in the Appendix show the hydraulic grade at 18 of these stations as determined from the charts.

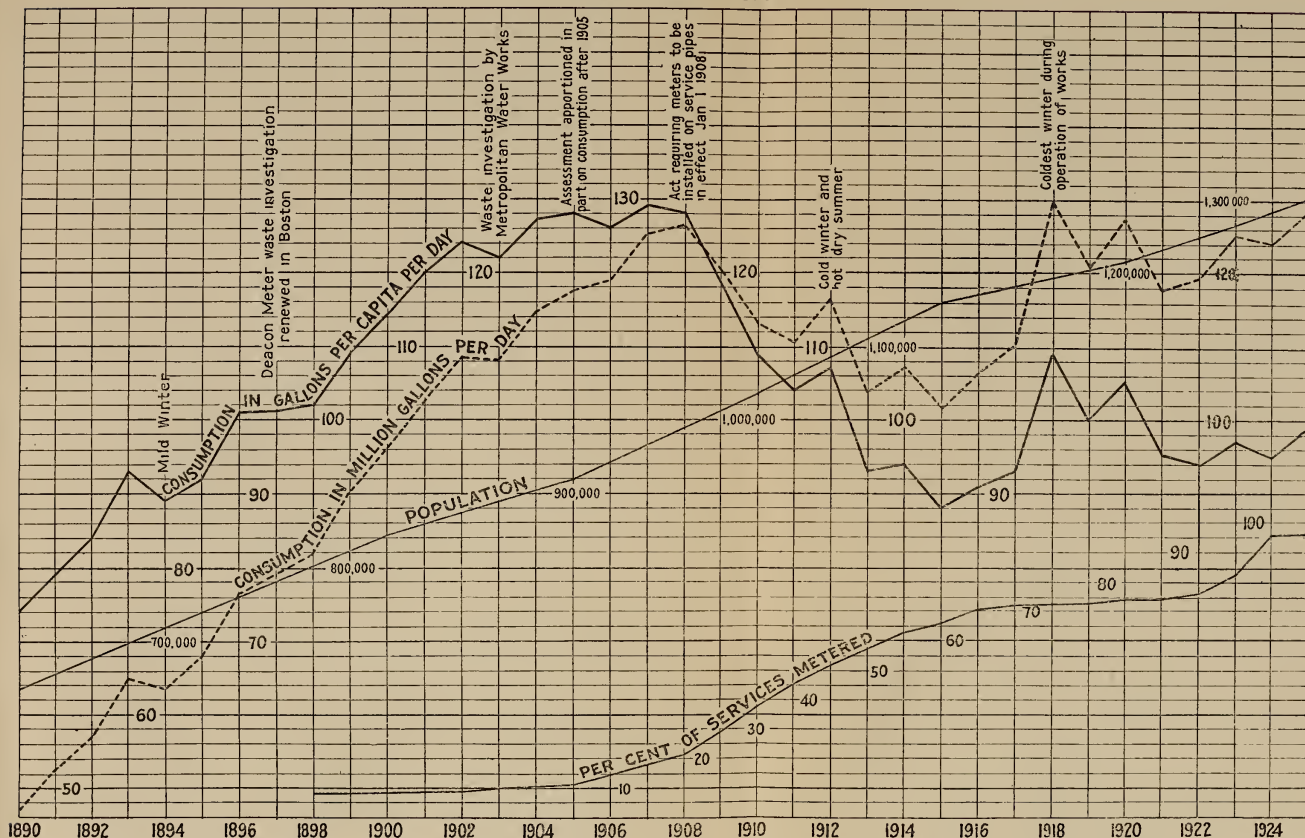
A complete stock of pipes, specials and other materials and supplies required for maintaining and operating the pipe lines has been kept on hand at the Glenwood pipe yard in Medford and at the Chestnut Hill pipe yard in Brighton, and an auto truck equipped with a gate-operating attachment has been stationed at each yard with men on duty ready to operate them in case of emergency any time during the day or night.

#### CONSUMPTION OF WATER

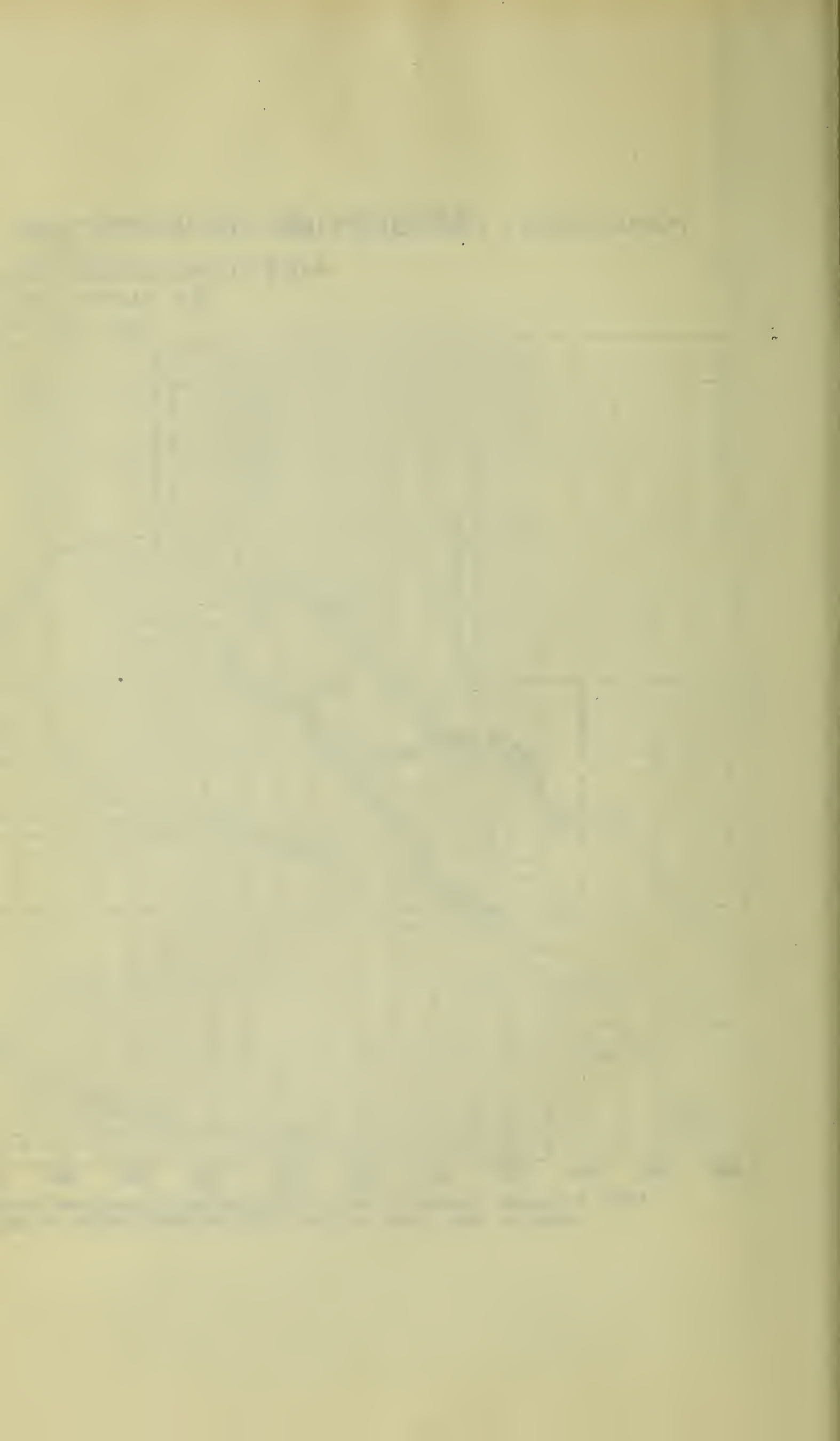
During the year 46,847,678,000 gallons of water were furnished from the Metropolitan Water Works to the 18 cities and towns supplied. This is equivalent to an average daily consumption of 128,349,800 gallons and for the estimated population of 1,303,020 is at the rate of 98.5 gallons per capita per day, an increase of 2 gallons per capita per day on the basis of the 1925 census.



POPULATION, CONSUMPTION OF WATER AND PER CENT OF SERVICES METERED  
IN THE  
METROPOLITAN WATER DISTRICT  
AS SUPPLIED IN 1925  
FROM 1890 TO 1925



Note Estimated population and consumption per capita given on diagram published in annual reports 1916 to 1919 inclusive have been revised and are here shown in accordance with 1920 census





The population, consumption of water and per cent of services metered in the Metropolitan Water District as supplied in 1925, and for the period from 1890 to 1925, inclusive, are shown graphically by the accompanying diagram.

The average daily consumption of water in each of the municipalities in the Metropolitan Water District during 1924 and 1925, is as follows: —

	Estimated Popula- tion, 1925	AVERAGE DAILY CONSUMPTION				Increase in Gallons
		1924		1925		
		Gallons	Gallons per Capita	Gallons	Gallons per Capita	
Arlington . . . . .	24,940	1,395,000	59	1,576,400	63	181,400
Belmont. . . . .	15,260	887,200	61	1,047,600	69	160,400
Boston . . . . .	779,620	87,680,900	113	89,724,700	115	2,043,800
Chelsea . . . . .	47,250	3,551,700	76	3,660,400	77	108,700
Everett . . . . .	42,070	4,491,500	108	5,281,000	126	789,500
Lexington . . . . .	7,790	448,000	60	492,900	63	44,900
Malden . . . . .	51,790	2,859,900	56	2,968,400	57	108,500
Medford . . . . .	47,630	2,441,400	53	2,507,600	53	66,200
Melrose . . . . .	20,160	1,247,400	63	1,253,800	62	6,400
Milton . . . . .	12,860	537,000	44	604,000	47	67,000
Nahant . . . . .	1,630	195,800	125	176,000	108	19,800 <sup>1</sup>
Quincy . . . . .	60,060	4,352,400	75	4,478,200	75	125,800
Revere . . . . .	33,260	2,293,300	71	2,377,900	71	84,600
Somerville . . . . .	99,030	7,760,100	79	7,955,500	80	195,400
Stoneham . . . . .	9,080	600,900	68	574,000	63	26,900 <sup>1</sup>
Swampscott . . . . .	8,950	731,100	83	753,900	84	22,800
Watertown . . . . .	25,480	1,657,100	67	1,887,500	74	230,400
Winthrop . . . . .	16,160	969,000	60	1,030,000	64	61,000
District Supplied . . . . .	1,303,020	124,099,700	97	128,349,800	99	4,250,100
Brookline <sup>2</sup> . . . . .	42,680	3,969,300	95	4,068,700	95	99,400
Newton . . . . .	53,020	4,108,300	79	4,181,800	79	73,500
Total District . . . . .	1,398,720	132,177,300	96	136,600,300	98	4,423,000

<sup>1</sup> Decrease

<sup>2</sup> Admitted to District January 1, 1925

The consumption by districts in 1925 as compared with 1924 is as follows: —

	Gallons per Day 1925	Increase from 1924	
		Gallons per Day	Percent- age
Southern low-service district, embracing the low-service district of Boston with the exception of Charlestown and East Boston	41,624,500	444,700	1.1
Northern low-service district, embracing the low-service district Arlington, Belmont, Charlestown, Chelsea, East Boston, Everett, Malden, Medford and Somerville	29,086,600	1,277,500	4.6
Southern high-service district, embracing Quincy and Watertown, the high-service districts of Boston and portions of Belmont and Milton	44,282,400	2,108,900	4.8
Northern high-service district, embracing Melrose, Nahant, Revere, Stoneham, Swampscott and Winthrop, and the high service districts of Chelsea, East Boston, Everett, Malden, Medford and Somerville	11,072,500	285,500	2.6
Southern extra high-service district, embracing the higher portions of Hyde Park, Milton and West Roxbury	1,010,800	3,100	0.3
Northern extra high-service district, embracing Lexington, and the higher portions of Arlington and Belmont	1,273,000	130,400	11.4
District supplied . . . . .	128,349,800	4,250,100	3.4
Supplied from local sources, Brookline and Newton . . . . .	8,250,500	172,900	2.1
Total district . . . . .	136,600,300	4,423,000	3.3

Through the emergency connection on Ward Street near Hammond Street, water was furnished to the city of Newton every month in the year with the exception of the month of March, the total quantity supplied being 186,970,000 gallons, or 173,470,000 gallons in excess of the quantity the city



Installation of Meters on Service Pipes.

Information regarding the installation of meters on service pipes by the municipalities supplied with water from the Metropolitan Water Works is given in Table No. 22 in Appendix No. 3.

WATER SUPPLIED FROM METROPOLITAN WATER WORKS AND USED OUTSIDE METROPOLITAN WATER DISTRICT

PLACES SUPPLIED	Number of Days on which Water was Supplied	Total Quantity (Gallons)	Average Quantity (Gallons) per Day	Amount Charged
City of Worcester . . . . .	204	942,300,000	2,581,643	\$37,692 00
Town of Clinton . . . . .	253	162,400,000	444,932	—
Westborough State Hospital . . . . .	365	70,128,000	192,000	2,103 84
Town of Westborough . . . . .	365	137,800,000	377,534	—
Town of Framingham . . . . .	365	504,118,882	1,381,148	20,164 76
Town of Natick . . . . .	365	220,800,000	604,932	—
United States Government: Peddock's Island. . . . .	365	21,586,000	59,140	1,407 93

FILTRATION OF WATER

The experiments begun in 1923 to obtain information concerning the improvement by filtration of the portion of the water supply not now used for consumption because of its objectionable color have been completed. General plans and estimates have been made for filtration works for purifying the waters of the 47 square miles of the South Sudbury watershed which have not been used for water supply since 1912.

WATER WORKS STATISTICS

Statistics relating to the operation of the Metropolitan Water Works for the year 1925 are given in tables in the Appendix.

Respectfully submitted,  
WILLIAM E. FOSS, *Director and Chief Engineer.*

Boston, January 2, 1926.

REPORT OF DIRECTOR AND CHIEF ENGINEER OF SEWERAGE DIVISION

DAVIS B. KENISTON, *Commissioner, Metropolitan District Commission.*

DEAR SIR: — The following report of the operations of the Metropolitan Sewerage Works for the year ending December 31, 1925, is respectfully submitted: —

ORGANIZATION

The Director and Chief Engineer has charge of the design and construction of all new works, and of the maintenance and operation of all the works controlled by the Metropolitan District Commission for removing sewage from the twenty-six municipalities which comprise the Metropolitan Sewerage Districts.

- The following assistants have been employed during the year: —
- Henry T. Stiff, Senior Assistant Engineer, in charge of office and drafting room and of the construction work.
  - Charles F. Fitz, Assistant Engineer, in charge of maintenance studies and records and of maintenance construction work on the North Metropolitan System.
  - Ralph W. Loud, Assistant Engineer, in charge of survey work and field work in connection with the Mill Brook Valley Sewer construction.



Thomas L. Whelan, Superintendent, North Metropolitan Sewerage District.

Arthur F. F. Haskell, Superintendent, South Metropolitan Sewerage District.

In addition to the above, the maximum number of engineering and other assistants employed during the year was 14, which includes 2 instrument men, 3 inspectors, 1 draftsman, 6 rodmen and engineering assistants and 2 stenographers.

METROPOLITAN SEWERAGE DISTRICTS

AREAS AND POPULATIONS

During the year no changes have been made in the extent of the metropolitan sewerage districts.

Chapter 59 of the Acts of 1924 provided for the addition of Needham to the south metropolitan sewerage district. This Act was accepted by the voters of the town of Needham in March, 1924. The Act provides that said town shall become a part of the district upon connection of any sewer of said town with metropolitan sewers. No such connection has yet been made.

The populations of the districts, as given in the following table, are based on the census of 1925.

Table showing Ultimate Contributing Areas and Present Estimated Populations within the Metropolitan Sewerage Districts, as of December 31, 1925

CITY OR TOWN		Area (Square Miles)	Estimated Population
North Metropolitan District	Arlington . . .	5.20	25,510
	Belmont . . .	4.66	15,670
	Boston (portions of) .	3.45	104,460
	Cambridge . . .	6.11	120,580
	Chelsea . . .	2.24	47,620
	Everett . . .	3.34	42,250
	Lexington <sup>1</sup> . . .	5.11	6,350
	Malden . . .	5.07	52,030
	Medford . . .	8.35	48,410
	Melrose . . .	3.73	20,340
	Reading . . .	9.82	8,800
	Revere . . .	5.86	33,670
	Somerville . . .	3.96	99,570
	Stoneham . . .	5.50	9,190
	Wakefield . . .	7.65	15,850
	Winchester . . .	5.95	11,660
	Winthrop . . .	1.61	16,220
	Woburn . . .	12.71	18,530
		100.32	696,710
South Metropolitan District	Boston (portions of) . .	24.96	309,080
	Brookline . . .	6.81	43,130
	Dedham <sup>1</sup> . . .	9.40	14,100
	Milton . . .	12.59	13,170
	Newton . . .	16.88	53,650
	Quincy . . .	12.56	61,160
	Waltham . . .	13.63	35,100
	Watertown . . .	4.04	25,850
	Wellesley . . .	9.89	9,310
		110.76	564,550
Totals . . .		211.08	1,261,260

<sup>1</sup> Part of town.

METROPOLITAN SEWERS

SEWERS PURCHASED AND CONSTRUCTED AND THEIR CONNECTIONS

During the year there have been 0.985 miles of Metropolitan sewers built within the sewerage districts, so that there are now 121.355 miles of Metropolitan sewers. Of this total, 9.642 miles of sewers, with the Quincy Pumping Station, have been purchased from cities and towns of the districts. The remaining 111.713 miles of sewers and other works have been constructed by the Metropolitan Boards.

The locations, lengths and sizes of these sewers are given in the following tables, together with other data referring to the public and special connections with the systems: —

NORTH METROPOLITAN SEWERAGE SYSTEM

Location, Length and Sizes of Sewers, with Public and Special Connections

CITY OR TOWN	Size of Sewers	Length in Miles	Public Connections, December 31, 1925	SPECIAL CONNECTIONS	
				Character or Location of Connection	Number in Operation
Boston:—					
Deer Island .	4' 0" to 9' 0" . . .	1.653	4	-	-
East Boston	9' 0" to 1' 0" . . .	5.467	25	Shoe factory	1
Charlestown	6' 7"×7'5" to 1' 0" . .	3.292	15	Middlebrook Wool-combing Co.	1
Winthrop . .	9' 0" . . . . .	2.864	14	Navy Yard . . . . .	9
				Private building . . . .	1
				Club House . . . . .	1
				Fire department station .	1
				Private building . . . .	1
				Bakery . . . . .	1
				Rendering Works . . . .	1
				Metropolitan Water Works blow-off	1
Chelsea . . .	8' 4"×9' 2" to 15" . .	5.230	14	Chelsea Water Works blow-offs	2
				Naval Hospital . . . . .	1
				U. S. Lighthouse Service	1
				Metropolitan Water Works blow-off	1
				Cameron Appliance Co. . .	1
Everett . . .	8' 2"×8' 10" to 4'8"×5'1"	2.925	9	Shultz-Goodwin Co. . . .	1
				Andrews-Wasgatt Co. . . .	1
				National Metallic Bed Co. .	1
				Linoide Co. . . . .	1
				Factory . . . . .	2
				New England Structural Co.	1
Lexington . .	-	-	1	-	-
Malden . . .	4' 6"×4'10" to 1'0" . .	5.844 <sup>1</sup>	35	Metropolitan Water Works blow-off	1
				Private buildings . . . .	219 <sup>2</sup>
				Private buildings . . . .	128 <sup>4</sup>
Melrose . . .	4'6"×4' 10" to 10" . .	6.099 <sup>3</sup>	39	Factory . . . . .	1
				Railroad station . . . . .	1
				Park Department bath-house	1
				Harvard dormitories . . .	2
				Slaughterhouse . . . . .	1
				City Hospital . . . . .	3
Cambridge . .	5' 2"×5' 9" to 1'3" . .	7.209	49	Street Railway machine shop	1
				Private building . . . .	1
				Factory building . . . .	1

<sup>1</sup> Includes 1.84 miles of sewer purchased from the city of Malden.

<sup>2</sup> Mostly buildings connected with sewers formerly belonging to city of Malden but later purchased by the Metropolitan Sewerage Commission in accordance with Chapter 215 of the Acts of 1898 and by the Metropolitan Water and Sewerage Board in accordance with Chapter 512 of the Acts of 1911 and made parts of the North Metropolitan Sewerage System.

<sup>3</sup> Includes .736 of a mile of sewer purchased from the city of Melrose.

<sup>4</sup> Mostly buildings connected with a sewer formerly belonging to the city of Melrose but later purchased by the Metropolitan Sewerage Commission in accordance with Chapter 414 of the Acts of 1896 and with a sewer extension built in accordance with Chapter 436 of the Acts of 1897 by the Metropolitan Sewerage Commission as an outlet for part of the town of Stoneham and made parts of the North Metropolitan Sewerage System.



NORTH METROPOLITAN SEWERAGE SYSTEM — *Concluded*

Location, Length and Sizes of Sewers, with Public and Special Connections—Con.

CITY OR TOWN	Size of Sewers	Length in Miles	Public Con- nec- tions, Decem- ber 31, 1925	SPECIAL CONNECTIONS	
				Character or Location of Connection	Number in Operation
Somerville.	6' 5" X 7' 2" to 10" . . .	3.577	14	Tannery . . . . .	1
				Slaughterhouses (3) . . . . .	1
				Carhouse . . . . .	1
				Somerville Water Works blow- off . . . . .	1
				Street railway power house . . . . .	1
				Stable . . . . .	1
				Rendering works . . . . .	1
				Railroad scale pit . . . . .	1
				Private building . . . . .	1
				Armory building . . . . .	1
Medford . . . .	4' 8" X 5' 1" to 10" . . .	6.306	26	Private buildings . . . . .	9
				Stable . . . . .	1
				Police substation . . . . .	1
				Tanneries . . . . .	6
				Private buildings . . . . .	10
				Gelatine factory . . . . .	1
				Watch-hand factory . . . . .	1
				Stable . . . . .	1
				Railroad station . . . . .	2
				Felt works . . . . .	1
Winchester . . .	4' 6" to 1' 3' . . . . .	10.420	31	Town Hall . . . . .	1
				Bay State Saw & Tool Co. . . . .	1
				Whitney Machine Co. . . . .	1
				Metropolitan Sewerage Divi- sion . . . . .	1
				— . . . . .	—
				Glue factory . . . . .	4
				Private buildings . . . . .	1
				Private buildings . . . . .	183
				Railroad station . . . . .	1
				Car house . . . . .	3
Belmont <sup>3</sup> . . . .	— . . . . .	—	3	Post office . . . . .	1
				— . . . . .	—
Wakefield . . .	3' 0" to 2' 0" X 2' 3" . . .	0.703	1	— . . . . .	—
Revere . . . .	4' 0" to 15" . . . . .	0.136	3	— . . . . .	—
Reading . . . .	— . . . . .	0.055	1	— . . . . .	—
		69.498 <sup>4</sup>	344	631	

<sup>1</sup> Includes 2.631 miles of sewer purchased from the town of Arlington.

<sup>2</sup> Mostly buildings connected with a sewer formerly belonging to the town of Arlington but later purchased by the Metropolitan Sewerage Commission in accordance with Chapter 520 of the Acts of 1897 and made a part of the North Metropolitan Sewerage System.

<sup>3</sup> The Metropolitan Sewer extends but a few feet into the town of Belmont.

<sup>4</sup> Includes 2.787 miles of Mystic Valley Sewer in Medford and Winchester, running parallel with the Metropolitan Sewer.

SOUTH METROPOLITAN SEWERAGE SYSTEM

Location, Length and Sizes of Sewers, with Public and Special Connections

CITY OR TOWN	Size of Sewers	Length in Miles	Public Connections, December 31, 1925	SPECIAL CONNECTIONS	
				Character or Location of Connection	Number in Operation
Boston:— Back Bay . . . .	6' 6" to 3' 9"	1.500 <sup>1</sup>	16	Tufts Medical School . . . . .	1
				Private house . . . . .	1
				Administration Building, Boston Park Department . . . . .	1
				Simmons College Buildings . . . . .	1
				Art Museum . . . . .	2
				Prince District Elementary School . . . . .	1
				Private buildings . . . . .	1
				Abattoir . . . . .	3
				— . . . . .	—
				— . . . . .	—
Brighton . . . .	5' 9"×6' 0" to 12"	6.010 <sup>2</sup>	15	— . . . . .	—
				— . . . . .	—
				— . . . . .	—
				— . . . . .	—
				— . . . . .	—
				— . . . . .	—
				— . . . . .	—
				— . . . . .	—
				— . . . . .	—
				— . . . . .	—

<sup>1</sup> Includes .355 of a mile of sewer purchased from the city of Boston.

<sup>2</sup> Includes .446 of a mile of pipe and concrete sewers built for the use of the city of Boston; also .026 of a mile of sewer purchased from the town of Watertown.

SOUTH METROPOLITAN SEWERAGE SYSTEM — *Concluded**Location, Length and Sizes of Sewers, with Public and Special Connections—Con.*

CITY OR TOWN	Size of Sewers	Length in Miles	Public Connections, December 31, 1925	SPECIAL CONNECTIONS	
				Character or Location of Connection	Number in Operation
Dorchester	3'×4' to 2' 6"×2' 7"	2.870 <sup>1</sup>	13	Chocolate works . . . . . Machine shop . . . . . Paper Mill . . . . . Private buildings . . . . . Edison Electric Company Station . . . . . Mattapan Paper Mills . . . . . Private buildings . . . . . Fairview Cemetery buildings . . . . .	2 1 1 3 1 2 2 1
Hyde Park	10' 7"×11' 7" to 4' 0"×4' 1"	4.527	19	Caledonia Grove buildings . . . . . Parental School . . . . . Lutheran Evangelical Church . . . . . Private buildings . . . . . Private buildings . . . . . Dedham Carpet Mills . . . . .	1 1 1 6 2 1
Roxbury	6' 6"×7' to 4' 0"	1.430	—	—	—
West Roxbury	9' 3"×10' 2" to 12"	7.643	17	Private buildings . . . . . Private buildings . . . . . Private buildings . . . . . Dedham Carpet Mills . . . . .	1 1 1 1
Brookline	6' 6"×7' 0" to 8"	2.540 <sup>2</sup>	14	Private buildings . . . . . Private buildings . . . . . Private buildings . . . . . Dedham Carpet Mills . . . . .	2 2 2 1
Dedham	4'×4' 1" to 2' 9"×3'	5.012	8	Private buildings . . . . . Private houses . . . . . Metropolitan Water Works blow-off . . . . . Squantum schoolhouse . . . . .	3 11 1 1
Hull <sup>3</sup>	60" pipe . . . . .	0.750	—	—	—
Milton	11'×12' to 8"	3.600	25	Private buildings . . . . . Private houses . . . . . Metropolitan Water Works blow-off . . . . . Squantum schoolhouse . . . . .	3 11 1 1
Newton	4' 2"×4' 9" to 1' 3"	2.911	9	Private buildings . . . . . Private houses . . . . . Metropolitan Water Works blow-off . . . . . Squantum schoolhouse . . . . .	1 11 1 1
Quincy	11' 3"×12' 6" to 24" pipe . . . . .	7.392	18	Private buildings . . . . . Private houses . . . . . Metropolitan Water Works blow-off . . . . . Squantum schoolhouse . . . . .	1 1 1 1
Waltham	3' 6"×4' 0"	0.001	1	—	—
Watertown	4' 2"×4' 9" to 12"	0.750 <sup>4</sup>	7	Factories . . . . . Stanley Motor Carriage Co. . . . . Knights of Pythias building . . . . . Walker-Gordon Co. . . . . Private buildings . . . . .	2 1 1 1 1
Needham <sup>3</sup>	2' 0"×2' 3" to 2' 3"×2' 6"	4.921	—	—	—
Wellesley <sup>5</sup>	—	—	1	—	—
		51.857	163		60

<sup>1</sup> Includes 1.24 miles of sewer purchased from the city of Boston.<sup>2</sup> Includes .158 of a mile of pipe sewer built for the use of the town of Brookline.<sup>3</sup> Hull and Needham are not parts of the Metropolitan Sewerage District.<sup>4</sup> Includes .025 of a mile of sewer purchased from the town of Watertown.<sup>5</sup> The Metropolitan Sewer extends but a few feet into the town of Wellesley.

Information relating to areas, populations, local sewer connections and other data for the Metropolitan sewerage districts appears in the following table: —

*North Metropolitan Sewerage District*

Area (Square Miles)	Estimated Total Population	Miles of Local Sewer Connected	Estimated Population Contributing Sewage	Ratio of Contributing Population to Total Population (Per cent)	CONNECTIONS MADE WITH METRO- POLITAN SEWERS	
					Public	Special
100.32	696,710	856.39	642,910	92.3	344	631

*South Metropolitan Sewerage District*

110.76	564,550	765.79	451,290	79.9	163	60
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*Both Metropolitan Sewerage Districts*

211.08	1,261,260	1,622.18	1,094,200	86.8	507	691
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Of the estimated gross population of 1,261,260 on December 31, 1925, 1,094,200 representing 86.8 per cent, were on that date contributing sewage



to the Metropolitan sewers, through a total length of 1,622.18 miles of local sewers owned by the individual cities and towns of the districts.

These sewers are connected with the Metropolitan Systems by 507 public and 691 special connections. During the current year there has been an increase of 40.96 miles of local sewers connected with the Metropolitan Systems, and 15 public and 23 special connections have been added.

## CONSTRUCTION

### NORTH METROPOLITAN SEWERAGE SYSTEM

#### MILL BROOK VALLEY SEWER—ARLINGTON

Chapter 65, Resolves of 1923, authorized a survey and study for a sewer in Mill Brook Valley, Arlington, in accordance with the requirements of Chapter 520, Acts of 1897. Chapter 116, Acts of 1924, authorized the construction of this work. This sewer will extend from West Medford at Warren Street through public streets and private lands to Forest Street in Arlington. It will be divided into four sections. The lower section, numbered 77, extends from Warren Street, West Medford, through High Street, to near the Mystic River. A contract for the construction of this section was described in last year's report. Work on this section was completed during 1925.

#### MILL BROOK VALLEY SEWER—SECTION 78

The work known as Section 78 of the North Metropolitan System is located in Medford and Arlington, Mass., and consists of a 36-inch by 42-inch concrete sewer in trench and tunnel and two parallel lines of 30-inch cast-iron pipe sewer and 20-inch and 16-inch cast-iron pipe sewer siphon extending from a point in land of the Commonwealth of Massachusetts near the Mystic River, westerly through land of said Commonwealth in Medford, crossing said Mystic River and continuing westerly in Arlington through other land of Commonwealth of Massachusetts and through Medford Street, Hayes Street, Mystic Lake Drive, lands of L. N. Russell and I. F. Carpenter, Mt. Pleasant Cemetery, crossing Mill Brook, thence extending through Fowle Avenue and land of town of Arlington to a point in Mystic Street. Some particulars of this contract are as follows:

Date of contract No. 19 (Sewerage Division) April 16, 1925.

Name of contractor, Anthony Baruffaldi Company.

Length of section, 3,325 feet.

Length of 36-inch by 42-inch concrete sewer in trench, 1,700 feet.

Length of 36-inch by 42-inch concrete and brick sewer in tunnel, 1,080 feet.

Length of 30-inch, 20-inch and 16-inch cast-iron pipe sewer, 545 feet.

Average depth of excavation in trench, 10 feet.

Average depth of sewer in tunnel, 31 feet.

Assistant Engineer in charge of construction, Ralph W. Loud.

Work was begun on this section April 22, 1925, and at this time, (December 31, 1925), 2,340 feet of sewer in trench and tunnel have been built and 352 feet of double line of 30-inch cast-iron pipe sewer have been laid.

No especial difficulties have been encountered in the construction of this work.

#### MILL BROOK VALLEY SEWER—SECTION 79

The work known as Section 79 of the North Metropolitan System is located in Arlington, Mass., and consists of a 24-inch and 20-inch Akron pipe main line sewer and a 20-inch Akron pipe and 10-inch cast-iron pipe branch line relief sewer. The main line sewer extends from a point in Mystic Street at its junction with Summer Street westerly through Summer Street and Water Street, land of the Huff Electrostatic Separator Company, crossing under the Lexington Branch of the Boston & Maine Railroad, thence extending through lands of Elizabeth Sullivan and the Frost Insecticide Company, crossing Mill Street, thence extending through other land of the Frost Insecticide Company, lands of the town of Arlington and of the Arlington Gas Light



Company to a point in Grove Street, a total distance of about 3,790 linear feet. The branch relief sewer extends from a manhole near the junction of Mystic Street and Summer Street in the Metropolitan Sewer now under construction southerly through Mystic Street and land of the Huff Electrostatic Separator Company, crossing Mill Brook, thence extending through Mystic Street to a manhole at the junction of Mystic and Chestnut Streets in the existing Metropolitan Sewer, a total distance of about 1,268 linear feet.

The work included under this section has been placed under contract, some particulars of which are as follows:

Date of contract No. 21 (Sewerage Division) December 3, 1925.

Name of contractor, Antony Cefalo.

Length of section, 5,058 feet.

Diameters of pipe sewers, 20-inch and 24-inch.

Diameter of cast-iron siphon pipes, 10-inches.

Average depth of excavation, main line, 8 feet.

Average depth of excavation, relief sewer, 10 feet.

Maximum depth in tunnel, 31 feet.

Assistant Engineer in charge of construction, Ralph W. Loud.

Work was started on this section December 7, 1925, and at this date (December 31, 1925) 880 feet of 20-inch pipe sewer have been laid.

## MAINTENANCE

### SCOPE OF WORK AND FORCE EMPLOYED

The maintenance of the Metropolitan Sewerage System includes the operating of 8 pumping stations, the Nut Island screen-house and 121.355 miles of Metropolitan sewers, receiving the discharge from 1,622.18 miles of town and city sewers at 507 points, together with the care and study of inverted siphons under streams and in the harbor.

At present the permanent maintenance force consists of 174 men, of whom 108 are employed on the North System and 66 on the South System. These are subdivided as follows: North Metropolitan System, 67 engineers and other employees in the pumping stations and 41 men, including foremen, on maintenance, care of sewer lines, buildings and grounds; South Metropolitan System, 41 engineers and other employees in the pumping stations and 25 men, including foremen, on maintenance, care of sewer lines, buildings and grounds.

The regular work of this department, in addition to the operation of the pumping stations, has consisted of routine work of cleaning and inspecting sewers and siphons, caring for tide gates, outfall sewers, regulators and overflows, measuring flow in sewers, inspection of connections to the Metropolitan sewers, and the care of pumping stations and other buildings, grounds and wharves.

In addition to these regular duties other work has been done by the maintenance employees in this department as follows:—

### DEER ISLAND PUMPING STATION

Attention has been called in previous reports to the condition of the wharf at Deer Island. No appropriation has been allowed for the erection of a new wharf. Either extensive repairs must be made or a new wharf constructed. This wharf is in an unsafe condition and the coal run is barely usable.

Extensive repairs have been made at this station on pumping units No. 1 and No. 2. On unit No. 1 a new composition sleeve and new steady bearing on the 10-inch shaft were installed. On unit No. 2 the wheel was removed from the casing and a new contact ring secured in place by Portland concrete was inserted. On this pump there were furnished a new lower shaft, new sleeve and new steady bearing. On pump No. 4 a new lower section of 12-inch shaft and a new steady bearing with a new sleeve were installed. All of the pumps at this station have now been equipped with the new type of steady bearing which we have adopted for all the north line stations.

The head houses at Shirley Gut, both on the Winthrop side and on the Deer



Island side, were rebuilt. The masonry in these structures is seriously affected by the gases, the passage of which is interfered with by the Shirley Gut Siphon. This is the second time the head house on the Point Shirley side has been reconstructed.

The Green economizer at this station has been replaced by a new one of the same type.

New dampers were placed in the chimney passages and the lightning rod on the chimney was repaired by the placing of new points with new copper cables and new fastenings. The masonry on the chimney was pointed from the top downward for a distance of about 30 feet.

#### EAST BOSTON PUMPING STATION

The 100,000,000-gallon pumping unit No. 4 at this station received repairs in the shape of new lower section of 12-inch shaft, new bronze sleeve and a new steady bearing.

The boiler room was repainted, including piping and all other fixtures.

#### CHARLESTOWN PUMPING STATION

At this station a new impeller wheel was inserted in pump No. 1. Other repairs to this unit consisted of the installation of a new contact ring in casing secured in place by Portland concrete, a new composition sleeve and a new steady bearing.

The copper on the roof of this pumping station had been in position for over thirty years. It had become so badly corroded that it was no longer possible to keep the roof tight. The old copper valleys, crickets, gutters, flashings and a large part of the cupola over the coal house were removed and replaced by new 24-ounce copper. A new copper skylight was erected over the machine shop.

This work was done by a firm of roofers in conjunction with the maintenance employees.

#### WARD STREET PUMPING STATION

At this station the new Morris pump and Nordberg engine were put into service April 17, 1925. They have been used for considerable of the time since this period. The indications are that this new pump and engine will be a very satisfactory unit.

#### NUT ISLAND SCREEN-HOUSE

In addition to the regular service at this station during the year 3,626 lbs. of brass castings have been made and distributed among the several pumping stations.

#### GASOLINE IN PUBLIC SEWERS

During the year the usual precautions have been maintained against the introduction of gasoline into the Metropolitan Sewers. An inspector has been employed who covers both North and South Metropolitan Sewerage Districts. His duties are to see that all newly constructed garages or other gasoline using establishments are supplied with a proper gasoline separator and also to see that these separators are kept in working condition.

During the year 1925 a smaller number of permits for garages and places where gasoline is used was issued than during the year 1924, namely, 1,864. Each of these permits necessitates an examination by our inspector. Many of them, however, are attended to through the mails and do not require a personal visit. Visits are made, however, to all locations where a connection is to be made with the public sewer system and to such places as do not respond to the return postal cards sent out. During the year 88 such places were connected with the sewers that empty into the Metropolitan Systems. At the present time, there are, according to our records, 1,358 garages and other establishments where gasoline is used connected with the local sewerage systems which discharge into the Metropolitan sewers.

This system of inspection has given satisfactory results. Occasionally odors of gasoline are detected in the sewers but the amount is not sufficient to be dangerous and the situation appears to be well in hand.



NORTH METROPOLITAN SEWERAGE SYSTEM

Table showing Cities and Towns delivering Sewage to this System; Approximate Miles of Sewers connected; Estimated Populations and Areas now contributing; Total Areas ultimately to contribute, and Present Populations on Such Areas; Ratios of Present Contributing Areas to Ultimate Areas, and Ratios of Populations now contributing to Present Total Populations

[Populations estimated as of December 31, 1925]

CITIES AND TOWNS	Miles of Local Sewers Connected	Separate or Combined	Number of Connections with Local Sewers	Estimated Number of Persons Served by Each House Connection <sup>1</sup>	Estimated Population Now Contributing Sewage	Estimated Present Total Population	Estimated Area Now Contributing Sewage	Area Ultimately to Contribute Sewage	Ratio of Contributing Population to Present Total Population	Ratio of Contributing Area to Ultimate Area
							Sq. Miles	Sq. Miles	Per Cent.	Per Cent.
Boston (Deer Island)	0.70	Separate	3,423	4.70	640 <sup>2</sup>	640	1.40	1.61	99.2	87.0
Winthrop	33.02	Separate	5,300	12.00	16,090	16,220	1.20	2.18	96.5	55.0
Boston (East Boston)	34.58	Separate and combined	4,568	10.20	63,600	65,900	1.18	2.24	97.8	52.7
Chelsea	32.05	Separate and combined	5,719	6.90	46,590	47,620	2.10	3.34	93.4	62.9
Everett	50.58	Separate and combined	8,183	6.00	39,460	42,250	3.24	5.07	94.3	63.9
Malden	70.91	Separate	4,006	4.60	49,100	52,030	2.04	3.73	90.6	54.7
Melrose	43.55	Separate	5,528	6.75	18,430	20,340	0.67	1.27	98.4	52.8
Boston (Charlestown)	21.79	Separate and combined	17,929	6.70	37,310	37,920	5.08	6.11	99.6	83.1
Cambridge	161.28	Separate and combined	17,121	5.80	120,120	120,580	3.57	3.96	99.7	90.1
Somerville	104.04	Separate and combined	7,880	6.05	99,300	99,570	3.55	8.35	98.5	42.5
Medford	73.17	Separate	2,296	5.05	47,670	48,410	1.73	5.95	99.4	29.1
Winchester	35.92	Separate	1,522	5.50	11,590	11,660	1.10	12.71	45.2	8.7
Woburn	19.88	Separate	1,149	5.00	8,370	18,530	0.76	5.50	62.5	13.8
Stoneham	14.04	Separate	3,969	5.70	5,750	9,190	2.24	5.20	88.7	43.1
Arlington	42.26	Separate	2,185	6.30	22,620	25,510	1.65	4.66	91.5	35.4
Belmont	32.60	Separate	1,170	5.20	14,340 <sup>3</sup>	15,670	0.77	7.65	38.4	10.1
Wakefield	18.44	Separate	277	4.60	6,080	15,850	0.33	5.11	20.0	6.5
Lexington	8.62	Separate	4,600	7.00	1,270	6,350	2.40	5.86	95.6	41.0
Revere	49.41	Separate	567	4.20	32,200	33,670	0.44	9.82	27.0	4.5
Reading	8.55	Separate	97,392	6.60	2,380	8,800	35.45	100.32	92.3	35.3
Totals	856.39	-	-	-	642,910	696,710	-	-	-	-

<sup>1</sup> Estimated from Assessors' statement of the number of houses in each city or town on April 1, 1925 and the population from census of 1925.

<sup>2</sup> Estimated by Superintendent of the institution on Deer Island.

<sup>3</sup> Including 2 connections with McLean Hospital, having an estimated population of 575.



SOUTH METROPOLITAN SEWERAGE SYSTEM

Table showing Cities and Towns delivering Sewage to this System; Approximate Miles of Sewers connected; Estimated Populations and Areas now contributing; Total Areas ultimately to contribute, and Present Populations on Such Areas; Ratios of Present Contributing Areas to Ultimate Areas, and Ratios of Populations now contributing to Present Total Populations.

[Populations estimated as of December 31, 1925.]

CITIES AND TOWNS	Miles of Local Sewers Connected	Separate or Combined	Number of Connections with Local Sewers	Estimated Number of Persons Served by Each House Connection <sup>1</sup>	Estimated Population now Contributing Sewage	Estimated Present Total Population	Estimated Area Now Contributing Sewage	Area Ultimately to Contribute Sewage	Ratio of Contributing Population to Present Total Population	Ratio of Contributing Area to Ultimate Area
Boston (Back Bay)	27.51	Separate and combined	2,095	19.50	40,850	40,950	Sq. Miles 1.16	Sq. Miles 1.61	Per Cent. 99.8	Per Cent. 72.0
Boston (Brighton)	68.87	Separate and combined	4,988	10.15	50,630	50,900	3.31	3.74	99.5	88.5
Brookline	77.56	Separate and combined	6,022	7.10	42,760	43,130	3.69	6.81	99.1	54.2
Newton	150.76	Separate	9,886	5.30	52,400	53,650	8.56	16.88	97.7	50.7
Watertown	53.10	Separate	4,106	6.20	25,460	25,850	2.48	4.04	98.5	61.4
Waltham	49.81	Separate	4,423	7.80	34,500	35,100	2.57	13.63	98.3	18.9
Boston (Dorchester)	62.99	Separate and combined	6,911	10.10	69,800 <sup>2</sup>	97,500 <sup>2</sup>	2.73	4.89	71.6	55.8
Milton	21.12	Separate and combined	1,585	4.60	7,290 <sup>2</sup>	13,170 <sup>2</sup>	1.09	12.59	55.4	8.7
Boston (Hyde Park)	37.83	Separate	2,777	7.20	19,990	20,080	1.75	4.57	99.6	38.3
Dedham	18.30	Separate	1,098	5.50	6,040	14,100 <sup>3</sup>	0.93	9.40	42.8	9.9
Boston (Roxbury) <sup>4</sup>	—	—	—	—	—	47,550 <sup>2</sup>	—	1.23	—	—
Boston (West Roxbury)	69.99	Separate and combined	5,332	6.80	38,810 <sup>2,5</sup>	52,100 <sup>2</sup>	3.04	8.92	74.5	34.1
Quincy	103.52	Separate	9,651	6.20	59,840	61,160	4.11	12.56	97.8	32.7
Wellesley	24.13	Separate	648	4.50	2,920	9,310	1.30	9.89	31.4	13.1
Totals	765.79	—	59,522	7.60	451,290	564,550	36.72	110.76	79.9	33.2

<sup>1</sup> Estimated from Assessors' statement of the number of houses in each city or town on April 1, 1925, and the population from census of 1925.  
<sup>2</sup> Parts of Dorchester, Milton, Roxbury and West Roxbury which are situated within the South Metropolitan Sewerage System limits are tributary at present to Boston main drainage works.  
<sup>3</sup> Part of town not included in Metropolitan Sewerage District.  
<sup>4</sup> At present connected with Boston main drainage system.  
<sup>5</sup> Including connection with institutions at Austin Farm, having an estimated population of 2,550.

BOTH METROPOLITAN SEWERAGE SYSTEMS

Table showing Areas delivering Sewage to both Systems; Approximate Miles of Sewers connected; Estimated Populations and Areas now contributing; Total Areas ultimately to contribute, and Present Populations on Such Areas. Ratios of Present Contributing Areas to Ultimate Areas, and Ratios of Populations now contributing to Present Total Populations

[Population estimated as of December 31, 1925]

SYSTEMS	Miles of Local Sewers Connected	Separate or Combined	Number of Connections with Local Sewers	Estimated Number of Persons Served by Each House Connection	Estimated Population Now Contributing Sewage	Estimated Present Total Population	Estimated Area Now Contributing Sewage	Area Ultimately to Contribute Sewage	Ratio of Contributing Population to Present Total Population	Ratio of Contributing Area to Ultimate Area
North Metropolitan	856.39	Separate and combined	97,392	6.6	642,910	696,710	Sq. Miles 35.45	Sq. Miles 100.32	Per Cent. 92.3	Per Cent. 35.3
South Metropolitan	765.79	Separate and combined	59,522	7.6	451,290	564,550	Sq. Miles 36.72	Sq. Miles 110.76	Per Cent. 79.9	Per Cent. 33.2
Totals . . .	1,622.18	-	156,914	7.0	1,094,200	1,261,260	72.17	211.08	86.8	34.2



## PUMPING STATIONS

### CAPACITIES AND RESULTS

#### NORTH METROPOLITAN SYSTEM

##### *Deer Island Pumping Station*

At this station are four submerged centrifugal pumps with impeller wheels 8.25 feet in diameter, driven by triple-expansion engines of the Reynolds-Corliss type.

Contract capacity of 1 pump: 100,000,000 gallons, with 19-foot lift.

Contract capacity of 3 pumps: 45,000,000 gallons each, with 19-foot lift.

Average duty for the year: 50,800,000 foot pounds.

Average quantity raised each day: 78,100,000 gallons.

Maximum quantity raised per day: 148,000,000 gallons.

##### *East Boston Pumping Station*

At this station are four submerged centrifugal pumps, with impeller wheels 8.25 feet in diameter, driven by triple-expansion engines of the Reynolds-Corliss type.

Contract capacity of 1 pump: 100,000,000 gallons with 19-foot lift.

Contract capacity of 3 pumps: 45,000,000 gallons each, with 19-foot lift.

Average duty for the year: 73,100,000 foot pounds.

Average quantity raised each day: 76,100,000 gallons.

Maximum quantity raised per day: 146,000,000 gallons.

##### *Charlestown Pumping Station*

At this station are three submerged centrifugal pumps, two of them having impeller wheels 7.5 feet in diameter, the other 8.25 feet in diameter. They are driven by triple-expansion engines of the Reynolds-Corliss type.

Contract capacity of 1 pump: 60,000,000 gallons with 8-foot lift.

Contract capacity of 2 pumps: 22,000,000 gallons each, with 11-foot lift.

Average duty for the year: 56,300,000 foot pounds.

Average quantity raised each day: 45,000,000 gallons.

Maximum quantity raised per day: 69,300,000 gallons.

##### *Alewife Brook Pumping Station*

The plant at this station consists of two 9-inch Andrews commercial centrifugal pumps, direct connected by horizontal shafts to compound marine engines, together with a pump and engine added later. The latter consists of a specially designed engine of the vertical cross-compound type, having between the cylinders a centrifugal pump rotating on a horizontal axis.

Contract capacity of the 2 original pumps: 4,500,000 gallons each, with 13-foot lift.

Contract capacity of new pump: 13,000,000 gallons, with 13-foot lift.

Average duty for the year: 19,900,000 foot pounds.

Average quantity raised each day: 5,900,000 gallons.

Maximum quantity raised per day: 11,200,000 gallons.

##### *Reading Pumping Station*

At this station are two submerged centrifugal pumps, of 2,500,000 gallons per 24 hours, and 4,000,000 gallons per 24 hours, capacity. These operate against a maximum head of 65 feet, and are actuated by vertical shafts directly connected with 75 and 100 horsepower motors. Alternating current of 440 volts furnished by the municipal plant of the town of Reading is used.

Average quantity pumped per 24 hours: 783,000 gallons.

Maximum quantity raised per day: 833,000 gallons.



SOUTH METROPOLITAN SYSTEM

Ward Street Pumping Station

At this station are two vertical, triple-expansion pumping engines, of the Allis-Chalmers type, operating reciprocating pumps, the plungers of which are 48 inches in diameter with a 60-inch stroke. The 50,000,000-gallon centrifugal pumping unit was put into service April 17, 1925.

Contract capacity of 3 pumps: 50,000,000 gallons each, with 45-foot lift.

Average duty for the year 72,200,000 foot pounds.

Average quantity raised each day: 35,110, 000 gallons.

Maximum quantity raised per day: 70,820,000 gallons.

Quincy Pumping Station

The plant at this station consists of one compound condensing Deane duplex piston pumping unit and one Lawrence centrifugal pump driven by a Sturtevant compound condensing engine and one Morris centrifugal pump driven by a Morris compound condensing engine.

Contract capacity of 3 pumps: Morris centrifugal 10,000,000 gallons; Deane, 5,000,000 gallons; Lawrence centrifugal, 10,000,000 gallons.

Average duty for the year: 23,600,000 foot pounds.

Average quantity raised each day: 5,002,000 gallons.

Maximum quantity raised per day: 15,961,000 gallons.

Nut Island Screen-house

The plant at this house includes two sets of screens in duplicate actuated by small reversing engines of the Fitchburg type. Two vertical Deane boilers, 80 horsepower each, operate the engines, provide heat and light for the house, burn materials intercepted at the screens, and furnish power for the Quincy (Hough's Neck) sewage lifting station.

Average daily quantity of sewage passing screens: 63,700,000 gallons.

Maximum quantity passing screens per day: 166,000,000 gallons.

Quincy (Hough's Neck) Sewage Lifting Station

At this station are two 6-inch submerged Lawrence centrifugal pumps with vertical shafts actuated by two Sturtevant direct-current motors.

The labor and electric energy for this station are supplied from the Nut Island Screen-house, and as used at present it does not materially increase the amount of coal used at the latter station.

Average quantity raised each day: 212,000 gallons.

Maximum quantity raised per day: 449,600 gallons.

Average Daily Volume of Sewage lifted at Each of the Seven Principal Metropolitan Sewerage Pumping Stations and at the Quincy (Hough's Neck) Sewage Lifting Station during the Year, as compared with the Corresponding Volumes for the Previous Year.

PUMPING STATION	AVERAGE DAILY PUMPAGE			
	Jan. 1, 1925, to Dec. 31, 1925	Jan. 1, 1924, to Dec. 31, 1924	Increase during the Year	
	Gallons	Gallons	Gallons	Per Cent
Deer Island . . . . .	78,100,000	74,900,000	3,200,000	4.3
East Boston . . . . .	76,100,000	72,900,000	3,200,000	4.4
Charlestown . . . . .	45,000,000	41,600,000	3,400,000	8.2
Alewife Brook . . . . .	5,900,000	5,560,000	340,000	6.1
Reading . . . . .	783,000	740,000	43,000	5.8
Quincy . . . . .	5,002,000	5,029,000	27,000 <sup>1</sup>	0.5 <sup>1</sup>
Ward Street (actual gallons pumped) . . . . .	35,110,000	34,200,000	910,000	2.7
Quincy (Hough's Neck) sewage lifting station . . . . .	212,000	214,000	2,000 <sup>1</sup>	0.9 <sup>1</sup>

<sup>1</sup> Decrease.



## METROPOLITAN SEWERAGE OUTFALLS

The Metropolitan Sewerage Districts now have outfalls in Boston Harbor at five points, two of which may discharge sewage from the North District and three from the South District.

During the year the sewage of the North District has been discharged wholly through the outlet located near Deer Island light. The other outfall of this system is closed by a cast-iron cover which can easily be removed.

Of the outfalls of the South District two extend for a distance exceeding one mile from the shore of Nut Island, Quincy, and the third one, called an emergency outlet, extends about 1,500 feet from the same. It was necessary to discharge through this outfall three times during the year. The total duration of these discharges was twenty-four hours and forty-five minutes.

During the year an inspection was made of these outfalls by a diver. The outfalls themselves, together with the stone reinforcement about them, were all found to be in good condition and practically free from all obstruction. The only deposit found in any of them was a small amount in the westerly line of the south system. This, however, was so small and of such little influence that it was not considered necessary to remove it.

During the year the average flow through the North Metropolitan District outfall at Deer Island has been 78,100,000 gallons of sewage per 24 hours, with a maximum rate of 148,000,000 gallons during a stormy period in December, 1925. The amount of sewage discharged in the North Metropolitan District averaged 121 gallons per day for each person, taking the estimated population of the District contributing sewage. If the sewers in this District were restricted to the admission of sewage proper only, this per capita amount would be considerably decreased.

In the South Metropolitan District an average of 63,700,000 gallons of sewage per 24 hours has passed through the screens at the Nut Island screen-house and has been discharged from the outfalls into the outer harbor. The maximum rate of discharge per day which occurred during a stormy period in December, 1925, was 166,000,000 gallons. The discharge of sewage through these outfalls represents the amount of sewage contributed by the South Metropolitan District, which was at the rate of 141 gallons per day per person of the estimated number contributing sewage in the District.

The daily discharge of sewage per capita is considerably larger in the South Metropolitan District than it is in the North Metropolitan District, because, owing to the large size and unused capacity of the South District High-level Sewer, more storm water is at present admitted to the sewers of this District.

*Material Intercepted at the Screens*

The material removed from the sewage at the screens of the North Metropolitan Sewerage Stations, consisting of rags, paper and other floating materials, has during the year amounted to 1,894 cubic yards. This is equivalent to 2.43 cubic feet for each million gallons of sewage pumped at Deer Island.

The material removed from the sewage at the screens of the South Metropolitan Sewerage Stations amounted to 3,517 cubic yards, equal to 5.52 cubic feet per million gallons of sewage delivered at the outfall works at Nut Island.

Studies of sewage flows in the Metropolitan sewers and siphons indicate that they are free from deposit.

FREDERICK D. SMITH,

*Director and Chief Engineer of Sewerage Division.*

Boston, January 1, 1926.



FINANCIAL STATEMENT

PARKS DIVISION

LOAN APPROPRIATIONS

The appropriations heretofore made in the form of loans, with accretions thereto, are as follows: —

Metropolitan Parks Loan Fund	
Original appropriation, chapter 407, Acts of 1893 . . . . .	\$1,000,000 00
General appropriation, chapter 483, Acts of 1894 . . . . .	500,000 00
Charles River Act, chapter 509, Acts of 1894 . . . . .	300,000 00
General appropriation, chapter 305, Acts of 1895 . . . . .	500,000 00
General appropriation, chapter 466, Acts of 1896 . . . . .	1,000,000 00
General appropriation, chapter 464, Acts of 1897 . . . . .	500,000 00
General appropriation, chapter 530, Acts of 1898 . . . . .	1,000,000 00
Revere Beach Bath-house Act, chapter 142, Acts of 1899 . . . . .	125,000 00
General appropriation, chapter 406, Acts of 1899 . . . . .	300,000 00
Charles River Improvement Act, chapter 465, Acts of 1900 . . . . .	50,000 00
Fuller's Wharf Act, chapter 467, Acts of 1900 . . . . .	30,000 00
General appropriation, chapter 445, Acts of 1901 . . . . .	450,000 00
Mystic River Bridge Act, chapter 492, Acts of 1901 . . . . .	200,000 00
General appropriation, chapter 290, Acts of 1903 . . . . .	125,000 00
Newton Upper Falls Bridge Act, chapter 391, Acts of 1903 . . . . .	40,000 00
Continuing appropriation, chapter 429, Acts of 1903 . . . . .	1,500,000 00
Nahant Beach Bath-house Act, chapter 326, Acts of 1904 . . . . .	70,000 00
Reimbursing loan for moth expense, chapter 486, Acts of 1906 . . . . .	50,000 00
Purification of Mystic River, Alewife Brook, and adjacent water-courses, ponds and drainage areas, chapter 529, Acts of 1906 . . . . .	100,000 00
Additional appropriation for purification of Mystic River, etc., chapter 529, Acts of 1907 . . . . .	25,000 00
Mystic River and Winthrop Shore Acts, chapter 652, Acts of 1908 . . . . .	70,000 00
Charles River Land Act, chapter 628, Acts of 1910, and chapter 439, Acts of 1911 . . . . .	143,043 96
Alewife Brook Purification Act, chapter 458, Acts of 1911 . . . . .	15,000 00
Work for unemployed, chapter 4, General Acts of 1915 . . . . .	50,000 00
Weston Bridge Act, chapter 368, Special Acts of 1915 . . . . .	50,000 00
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To provide for interest and sinking fund requirements to 1900, chapter 311, Acts of 1897 . . . . .	\$8,193,043 96
	<hr/>
Total amount of loans . . . . .	\$9,093,043 96
Amounts received from sales of buildings, receipts from bath-houses, fines, etc. . . . .	198,942 81
	<hr/>
Total . . . . .	\$9,291,986 77

Metropolitan Parks Loan Fund, Series II	
Original boulevard, chapter 288, Acts of 1894 . . . . .	\$500,000 00
General appropriation, chapter 472, Acts of 1896 . . . . .	500,000 00
General appropriation, chapter 521, Acts of 1897 . . . . .	1,000,000 00
Saugus Bridge Act, Chapter 547, Acts of 1898 . . . . .	100,000 00
General appropriation, chapter 428, Acts of 1899 . . . . .	500,000 00
Mattapan Bridge Act, chapter 443, Acts of 1900 . . . . .	75,000 00
Winchester Act, chapter 444, Acts of 1900 . . . . .	50,000 00
Revere Beach Parkway Act, chapter 445, Acts of 1900 . . . . .	200,000 00
General appropriation, chapter 172, Acts of 1902 . . . . .	450,000 00
General appropriation, chapter 359, Acts of 1903 . . . . .	110,000 00
Continuing appropriation, chapter 419, Acts of 1903 . . . . .	1,500,000 00
Alewife Brook and Fresh Pond Parkway Act, chapter 651, Acts of 1908 . . . . .	50,000 00
Continuing appropriation, chapter 699, Acts of 1912 . . . . .	1,000,000 00
Wellington Bridge Act, chapter 794, Acts of 1914 . . . . .	115,000 00
Work for unemployed, chapter 5, Special Acts of 1915 . . . . .	50,000 00
Alewife Brook Parkway construction, chapter 243, General Acts of 1915 . . . . .	35,000 00
Neponset Bridge Act, chapter 300, General Acts of 1915 . . . . .	350,000 00
Wellington Bridge Act, chapter 178, General Acts of 1916 . . . . .	11,000 00
Improvement of lands in Arlington, chapter 186, General Acts of 1916 . . . . .	20,000 00
Parkway connecting Blue Hills Reservation and Granite Street, Braintree, chapter 235, General Acts of 1916 . . . . .	10,000 00
Construction of Dedham Parkway, chapter 237, General Acts of 1916 . . . . .	10,000 00
Additional appropriation for Neponset Bridge construction, chapter 220, General Acts of 1917 . . . . .	100,000 00
Settlement of claims for land, Furnace Brook Parkway, chapter 316, General Acts of 1917 . . . . .	8,000 00
Completion of boulevards and roadways, chapter 175, General Acts of 1919 . . . . .	250,000 00
Additional appropriation for Neponset Bridge construction, chapter 238, General Acts of 1919 . . . . .	170,000 00
Additional appropriation for Neponset Bridge construction, chapter 380, Acts of 1922 . . . . .	280,000 00
Completion of Old Colony Parkway, Chapter 365, Acts of 1923 . . . . .	1,675,000 00
Completion of Furnace Brook Parkway, chapter 366, Acts of 1923 . . . . .	135,000 00
Deficiency of Neponset Bridge, chapter 211, Acts of 1925 . . . . .	50,000 00
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To provide for interest and sinking fund requirements to 1900, chapter 311, Acts of 1917 . . . . .	\$9,304,000 00
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Total amount of loans . . . . .	\$9,404,000 00
Receipts from sales, etc. . . . .	29,934 16
	<hr/>
Total . . . . .	\$9,433,934 16



<i>Nantasket Beach Loan</i>	
Appropriation, chapter 464, Acts of 1899 . . . . .	\$600,000 00
Appropriation, chapter 456, Acts of 1901 . . . . .	100,000 00
<hr/>	
Total amount of loans . . . . .	\$700,000 00
Receipts from rents, etc. . . . .	5,881 50
<hr/>	
Total . . . . .	\$705,881 50

<i>Charles River Basin Loan</i>	
Bonds issued for 1904 . . . . .	\$250,000 00
Bonds issued for 1905 . . . . .	400,000 00
Bonds issued for 1906 . . . . .	600,000 00
Bonds issued for 1907 . . . . .	1,150,000 00
Bonds issued for 1908 . . . . .	400,000 00
Bonds issued for 1909 . . . . .	850,000 00
Bonds issued for 1910 . . . . .	475,000 00
Bonds issued for 1911 . . . . .	300,000 00
Appropriation, chapter 539, Acts of 1913 . . . . .	40,000 00
Driveway, Brooks Street to Charlesbank Road, chapter 188, General Acts of 1915 . . . . .	35,000 00
<hr/>	
Total amount of bonds . . . . .	\$4,500,000 00
Receipts added to loan . . . . .	9,368 91
<hr/>	
Total . . . . .	\$4,509,368 91

<i>Charles River Bridges Loan</i>	
Western Avenue—Arsenal Street bridge, chapter 497, Acts of 1921 . . . . .	\$175,000 00
Western Avenue bridge, chapter 497, Acts of 1921 . . . . .	275,000 00
River Street—Brighton Street bridge, chapter 497, Acts of 1921 . . . . .	275,000 00
Brookline Street—Essex Street—Cottage Farm bridge, chapter 497, Acts of 1921 . . . . .	750,000 00
Cottage Farm bridge, additional, chapter 416, Acts of 1924 . . . . .	350,000 00
<hr/>	
	\$1,825,000 00

<i>Massachusetts Avenue Bridge Loan</i>	
Chapter 442, Acts of 1924 . . . . .	\$600,000 00

<i>Northern Traffic Route Loan</i>	
Chapter 489, Acts of 1924 . . . . .	\$2,400,000 00

*Expenditures From Loans*

The following tables show the total amount expended in each of the foregoing loans, the total cost of each reservation and parkway to December 1, 1925, and the amount charged by the Auditor's department to meet the sinking fund and interest requirements previous to January 1, 1900. The item of "Miscellaneous" in these tables includes cost of construction of roads, buildings and of all other work of construction, and all other charges against these loans except those for land, general expenses, sinking fund and cost of maintenance required by law to be charged to loans up to 1897. The total charges for maintenance to 1897, general expenses and sinking fund are given separately at the end of the tables. The amounts expended from these loans for the fiscal year ending November 30, 1925, are stated in tables on pages 57, 58 and 59. The total amounts charged to those loans are as follows: —

<i>Metropolitan Parks Loan Fund</i>	
Land . . . . .	\$5,395,998 66
Miscellaneous, including construction of roads, buildings, etc. . . . .	3,395,496 69
General expense . . . . .	163,371 12
Maintenance to January 1, 1897, sinking fund assessments to January 1, 1900, and interest . . . . .	290,326 56
Transfer to Serial Bond Loan . . . . .	3,601 10
<hr/>	
	\$9,248,794 13

<i>Metropolitan Parks Loan Fund, Series II</i>	
Land . . . . .	\$2,397,194 15
Miscellaneous, including construction of roads, buildings, etc. . . . .	5,853,070 87
General expense . . . . .	107,136 99
Sinking fund assessments to January 1, 1900, and one-half interest . . . . .	59,195 89
Transfer to Serial Bond Loan . . . . .	5,209 92
<hr/>	
	\$8,421,807 82

<i>Nantasket Beach Loan</i>	
Land . . . . .	\$603,329 57
Miscellaneous, including construction of buildings, etc. . . . .	102,551 93
<hr/>	
	\$705,881 50

<i>Massachusetts Avenue Bridge Loan</i>	
Reconstruction . . . . .	\$488,285 73

<i>Northern Traffic Route Loan</i>	
Land . . . . .	\$91,398 43
Miscellaneous . . . . .	27,184 18
<hr/>	
	\$118,582 61

EXPENDITURES TO DECEMBER 1, 1925

*Metropolitan Parks Loan Fund*

Blue Hills Reservation:			
Land		\$363,357 29	
Miscellaneous		307,058 66	
			\$670,415 95
Middlesex Fells Reservation:			
Land		\$691,212 69	
Miscellaneous		294,557 47	
			985,770 16
Revere Beach Reservation:			
Land		\$1,162,947 67	
Miscellaneous		800,999 04	
			1,963,946 71
Stony Brook Reservation:			
Land		\$281,243 87	
Miscellaneous		76,810 67	
			358,054 54
Beaver Brook Reservation:			
Land		\$29,819 29	
Miscellaneous		24,437 35	
			54,256 64
Hemlock Gorge Reservation:			
Land		\$53,254 00	
Miscellaneous		15,543 94	
			68,797 94
Charles River Reservation:			
Land		\$1,584,041 51	
Miscellaneous		341,121 33	
			1,925,162 84
Neponset River Reservation:			
Land		\$233,473 04	
Miscellaneous		46,418 97	
			279,892 01
Mystic River Reservation:			
Land		\$245,233 21	
Miscellaneous		380,830 51	
			626,063 72
Lynn Shore Reservation:			
Land		\$361,199 29	
Miscellaneous		243,580 01	
			604,779 30
Quincy Shore Reservation:			
Land		\$73,726 26	
Miscellaneous		198,160 63	
			271,886.89
Winthrop Shore Reservation:			
Land		\$51,067 32	
Miscellaneous		170,560 99	
			221,628 31
Hart's Hill Reservation:			
Land		\$10,000 00	
Miscellaneous		202 35	
			10,202 35
King's Beach Reservation:			
Land		\$24,297 21	
Miscellaneous		1,551 63	
			25,848 84
West Roxbury Parkway:			
Land		\$244,976 01	
Miscellaneous		8,313 67	
			253,289 68
Wellington Bridge:			
Miscellaneous		\$185,317 42	
			185,317 42
Nahant Beach Bath-house:			
Miscellaneous		\$67,794 58	
			67,794 58
Boylston Street Bridge:			
Miscellaneous		\$45,838 57	
			45,838 57
Alewife Brook Purification:			
Miscellaneous		\$136,398 90	
			136,398 90
Weston Bridge:			
Miscellaneous		\$50,000 00	
			50,000 00
General expense			
			163,486 12
			\$8,968,831 47
Sinking fund requirements to 1896		\$18,980 18	
Care and maintenance to July 1, 1896		85,813 46	
Care and maintenance, July 1, 1896, to January 1, 1897		19,604 06	
Sinking fund assessment for 1897		63,630 70	
Sinking fund assessment for 1898		9,755 55	
Sinking fund assessment for 1899		64,224 00	
Interest		28,318 61	
Transfer to Serial Bond Loan (unexpended balance Alewife Brook purification appropriation)		3,601 10	
			293,927 66
Total charged to December 1, 1925			\$9,262,759 13
Balance December 1, 1925			29,227 64
			\$9,291,986 77



## Metropolitan Parks Loan Fund, Series II

Blue Hills Parkway:													
Land	.	.	.	.	.	.	.	.	.	.	\$133,505	02	
Miscellaneous	.	.	.	.	.	.	.	.	.	.	269,513	47	
													\$403,018 49
Middlesex Fells Parkway:													
Land	.	.	.	.	.	.	.	.	.	.	\$263,687	60	
Miscellaneous	.	.	.	.	.	.	.	.	.	.	613,667	39	
													877,354 99
Mystic Valley Parkway:													
Land	.	.	.	.	.	.	.	.	.	.	\$204,703	91	
Miscellaneous	.	.	.	.	.	.	.	.	.	.	426,421	06	
													631,124 97
Revere Beach Parkway:													
Land	.	.	.	.	.	.	.	.	.	.	\$537,445	51	
Miscellaneous	.	.	.	.	.	.	.	.	.	.	869,565	65	
													1,407,011 16
Neponset River Parkway:													
Land	.	.	.	.	.	.	.	.	.	.	\$83,941	75	
Miscellaneous	.	.	.	.	.	.	.	.	.	.	36,100	54	
													120,042 29
Fresh Pond Parkway:													
Land	.	.	.	.	.	.	.	.	.	.	\$44,086	25	
Miscellaneous	.	.	.	.	.	.	.	.	.	.	31,635	58	
													75,721 83
Furnace Brook Parkway:													
Land	.	.	.	.	.	.	.	.	.	.	\$173,897	77	
Miscellaneous	.	.	.	.	.	.	.	.	.	.	404,018	19	
													577,915 96
Nahant Beach Parkway:													
Land	.	.	.	.	.	.	.	.	.	.	\$80,940	78	
Miscellaneous	.	.	.	.	.	.	.	.	.	.	76,260	11	
													157,200 89
Lynn Fells Parkway:													
Land	.	.	.	.	.	.	.	.	.	.	\$40,468	46	
Miscellaneous	.	.	.	.	.	.	.	.	.	.	126,373	84	
													166,842 30
Winthrop Parkway:													
Land	.	.	.	.	.	.	.	.	.	.	\$134,090	73	
Miscellaneous	.	.	.	.	.	.	.	.	.	.	90,011	11	
													224,101 84
Alewife Brook Parkway:													
Land	.	.	.	.	.	.	.	.	.	.	\$144,497	74	
Miscellaneous	.	.	.	.	.	.	.	.	.	.	45,705	13	
													190,202 87
Charles River Speedway:													
Miscellaneous	.	.	.	.	.	.	.	.	.	.	\$521,348	66	
													521,348 66
Blue Hills Roads:													
Miscellaneous	.	.	.	.	.	.	.	.	.	.	\$8,742	06	
													8,742 06
Middlesex Fells Roads:													
Miscellaneous	.	.	.	.	.	.	.	.	.	.	\$79,444	42	
													79,444 42
Stony Brook Roads:													
Miscellaneous	.	.	.	.	.	.	.	.	.	.	\$37,183	45	
													37,183 45
Lynnway:													
Land	.	.	.	.	.	.	.	.	.	.	\$20,500	00	
Miscellaneous	.	.	.	.	.	.	.	.	.	.	124,368	29	
													144,868 29
Spy Pond Parkway:													
Miscellaneous	.	.	.	.	.	.	.	.	.	.	\$89.	04	
													89.04
Old Colony Parkway:													
Land	.	.	.	.	.	.	.	.	.	.	\$391,866	02	
Miscellaneous	.	.	.	.	.	.	.	.	.	.	845,058	10	
													1,236,924 12
Woburn Parkway:													
Land	.	.	.	.	.	.	.	.	.	.	\$4,608	75	
Miscellaneous	.	.	.	.	.	.	.	.	.	.	52,038	32	
													56,647 07
Dedham Parkway:													
Land	.	.	.	.	.	.	.	.	.	.	\$22,027	01	
Miscellaneous	.	.	.	.	.	.	.	.	.	.	34,322	88	
													56,349 89
Hammond Pond Parkway:													
Land	.	.	.	.	.	.	.	.	.	.	\$94,965	85	
Miscellaneous	.	.	.	.	.	.	.	.	.	.	5,061	45	
													100,027 30
Quannapowitt Parkway:													
Land	.	.	.	.	.	.	.	.	.	.	\$6,961	00	
Miscellaneous	.	.	.	.	.	.	.	.	.	.	1,831	82	
													8,792 82
West Roxbury Parkway:													
Miscellaneous	.	.	.	.	.	.	.	.	.	.	\$57,420	97	
													57,420 97
Vose's Grove:													
Miscellaneous	.	.	.	.	.	.	.	.	.	.	\$980	08	
													980 08
Wellington Bridge:													
Miscellaneous	.	.	.	.	.	.	.	.	.	.	\$120,796	40	
													120,796 40

Metropolitan Parks Loan Fund, Series II — Concluded

Neponset Bridge:		
Land	\$15,000 00	
Miscellaneous	928,068 06	\$943,068 06
Arlington Parkway:		
Miscellaneous	\$4,035 12	4,035 12
Nonantum Road:		
Miscellaneous	\$41,271 43	41,271 43
West Street, Braintree:		
Miscellaneous	\$1,738 25	1,738 25
General expense		107,136 99
		\$8,357,402 01
Sinking fund requirements for 1896	\$3,650 03	
Sinking fund requirements for 1897	14,057 10	
Sinking fund requirements for 1898	3,765 08	
Sinking fund requirements for 1899	15,396 00	
One-half interest	22,327 68	
Transfer to Serial Bond Loan	5,209 92	64,405 81
Total charged to December 1, 1925		\$8,421,807 82
Balance December 1, 1925		1,012,126 34
		\$9,433,934 16

Nantasket Beach Loan

Land	\$603,329 57	
Miscellaneous	102,551 93	
Total charged to December 1, 1925		\$705,881 50

Charles River Basin Loan

Expended from beginning of work to December 1, 1925		\$4,472,862 22
The above amount has been distributed as follows:—		
Administration	\$108,225 16	
Dam	1,118,772 60	
Lock	724,142 64	
Temporary bridge and approaches	184,895 36	
Drawbridge	100,371 06	
Highway	55,557 85	
Dredging, pile-driving and protection work in Basin	179,881 35	
Broad Canal	117,251 64	
Lechmere Canal	53,388 87	
Boston embankment	895,213 92	
Boston marginal conduit	635,511 96	
Cambridge marginal conduit	99,472 48	
Elimination of malarial mosquitoes	1,173 68	
Landing piers	7,667 99	
Float anchorage	23 90	
Police signal system	9,847 56	
Improvement of south bank and driveway	31,506 09	
Service sheds	19,198 95	
Mortuary	1,560 66	
Otter Street widening	34,762 82	
Landing near Faneuil Station	1,057 83	
Alterations and improvements in stable and stable yard	2,052 15	
Shelters	2,615 19	
Rent of land	2.00	
Maintenance	88,708 51	\$4,472,862 22

Charles River Bridges Loan

Cottage Farm Bridge:		
Miscellaneous	\$125,270 96	
Balance December 1, 1925	974,729 04	\$1,100,000 00
Western Avenue—Arsenal Street Bridge:		
Miscellaneous	\$138,693 49	
Balance, December 1, 1925	36,306 51	175,000 00
Western Avenue Bridge:		
Miscellaneous	\$274,828 30	
Balance, December 1, 1925	171 70	275,000 00
River Street—Brighton Street Bridge:		
Miscellaneous	\$197,148 68	
Balance, December 1, 1925	77,851 32	275,000 00

Metropolitan Parks Trust Fund

Receipts	\$40,776 92	
Expenditures	38,106 50	
Balance, Dccember, 1, 1925		2,670 42

Edwin U. Curtis Memorial

Receipts	\$1,374 40	
Balance December 1, 1925		1,374 40



DETAILED STATEMENT

Expenditures December 1, 1924, to December 1, 1925

METROPOLITAN PARKS LOAN FUND

Metropolitan Parks Loan Fund . . . . .	\$9,093,043 96
Receipts added to loan before June 1, 1901 . . . . .	198,942 81
	<hr/>
	\$9,291,986 77

Expenditures

General Expense:	
Bond Book . . . . .	\$60 00
Middlesex Fells Reservation:	
Land . . . . .	50 00
	<hr/>
	\$110 00
Amounts charged to December 1, 1925 . . . . .	9,262,649 13
	<hr/>
	9,262,759 13
Balance December 1, 1925 . . . . .	\$29,227 64

METROPOLITAN PARKS LOAN FUND, SERIES II

Metropolitan Parks Loan Fund, Series II . . . . .	\$9,404,000 00
Receipts from sales, etc. . . . .	29,934 16
	<hr/>
	\$9,433,934 16

Expenditures

Furnace Brook Parkway:	
Construction:	
Contract, A. G. Tomasello & Son . . . . .	\$23,903 15
Labor and materials . . . . .	1,801 03
	<hr/>
	\$25,704 18
Moving tracks . . . . .	1,709 47
	<hr/>
	\$27,413 65
Old Colony Parkway:	
Construction:	
Contracts:	
Jas. H. Fannon . . . . .	\$45,991 76
Bay State Dredging Company . . . . .	290,181 83
Coleman Bros., Inc. . . . .	39,461 25
John W. O'Connell. . . . .	5,118 71
	<hr/>
	\$380,753 55
Labor and materials . . . . .	136,227 82
	<hr/>
	\$516,981 37
Engineering:	
Services . . . . .	\$17,339 09
Expenses . . . . .	651 30
	<hr/>
	17,990 39
Lighting . . . . .	682 60
Advertising . . . . .	194 70
Printing contract . . . . .	78 15
Consulting engineers . . . . .	175 00
Miscellaneous . . . . .	2 55
	<hr/>
	536,104 76
Mystic Valley Parkway:	
Land . . . . .	713 00
Neponset Bridge:	
Construction:	
Contract, Crandall Eng. Co. . . . .	\$61,992 75
Labor and materials . . . . .	4,136 44
	<hr/>
	\$66,129 19
Rental of land . . . . .	375 00
Engineering:	
Expenses . . . . .	423 09
	<hr/>
	66,927 28
	<hr/>
	\$631,158 69
Amounts charged to December 1, 1924 . . . . .	7,790,649 13
	<hr/>
	8,421,807 82
Balance December 1, 1925 . . . . .	\$1,012,126 34

NORTHERN TRAFFIC ROUTE LOAN

Appropriation (chapter 489, Acts of 1924) . . . . .	\$1,800,000 00
Expenditures	
Land . . . . .	\$89,763 43
Engineering:	
Services . . . . .	\$9,514 58
Expenses . . . . .	322 89
	<hr/>
	9,837 47
Legal . . . . .	9,508 15
Claims . . . . .	4,450 00
	<hr/>
	\$113,559 05
Amounts charged to December 1, 1924 . . . . .	5,023 56
	<hr/>
	118,582 61
Balance December 1, 1925 . . . . .	\$1,681,417 39





RIVER STREET - BRIGHTON STREET BRIDGE LOAN

Appropriation (chapter 497, Acts of 1921) . . . . . \$275,000 00

Expenditures

Construction:		
Contract, Luke S. White, Inc.	\$179,826 26	
Engineering:		
Services	\$5,695 97	
Expenses	43 79	
		5,739 76
Advertising		285 39
Consulting engineers		550 00
		<u>\$186,401 41</u>
Amounts charged to December 1, 1924		10,747 27
		<u>197,148 68</u>
Balance December 1, 1925		\$77,851 32

METROPOLITAN PARKS MAINTENANCE FUND, GENERAL

Appropriation December 1, 1924, to December 1, 1925 . . . . . \$778,395 38

Expenditures

General expense:		
Police:		
Payrolls	\$191,097 21	
Miscellaneous	32,165 13	
	<u>\$223,262 34</u>	
Salaries:		
Commissioners	\$2,500 00	
Secretary and clerks	8,428 35	
Engineering department	15,677 29	
	<u>26,605 64</u>	
Rent, care and lighting of building	4,499 98	
Supplies and miscellaneous expenses:		
General office	\$4,971 00	
Engineering department	1,237 93	
	<u>6,208 93</u>	
Pensions and annuities	20,606 30	
	<u>\$281,183 19</u>	
Blue Hills Reservation:		
Labor and teaming:		
General.	\$32,898 85	
Moth work	27,344 06	
Road repairs	12,587 10	
	<u>\$72,830 01</u>	
Supplies and miscellaneous expenses:		
General.	\$14,761 99	
Moth work	181 42	
Road repairs	1,348 55	
	<u>16,291 96</u>	
		89,121 97
Stony Brook Reservation:		
Labor and teaming:		
General.	\$3,856 36	
Moth work	3,803 10	
Road repairs	399 41	
	<u>\$8,058 87</u>	
Supplies and miscellaneous expenses:		
General.	\$1,975 94	
Road repairs	344 83	
	<u>2,320 77</u>	
		10,379 64
Neponset River Reservation:		
Labor and teaming:		
Moth work	\$2,155 00	
Supplies and miscellaneous expenses:		
General.	88 62	
	<u>\$2,243 62</u>	
Quincy Shore Reservation:		
Labor and teaming:		
General.	\$10,788 83	
Road repairs	157 10	
	<u>10,945 93</u>	
Street lighting	3,041 64	
Supplies and miscellaneous expenses:		
General.	\$1,547 63	
Road repairs	106 32	
	<u>1,653 95</u>	
		15,641 52

*Metropolitan Parks Maintenance Fund, General — Continued*

Middlesex Fells Reservation:			
Labor and teaming:			
General.	.	.	\$42,570 11
Moth work	.	.	25,678 63
Road repairs	.	.	6,816 02
			<u>\$75,064 76</u>
Supplies and miscellaneous expenses:			
General	.	.	\$18,971 68
Moth work	.	.	2,564 17
Road repairs	.	.	980 36
			<u>22,516 21</u>
			\$97,580 97
Mystic River Reservation:			
Labor and teaming:			
General	.	.	\$12,345 11
Supplies and miscellaneous expenses:			
General	.	.	2,327 16
			<u>14,672 27</u>
Revere Beach Reservation:			
Labor and teaming:			
General.	.	.	\$42,378 42
Road repairs	.	.	79 68
			<u>\$42,458 10</u>
Street lighting	.	.	7,803 14
Supplies and miscellaneous expenses:			
General.	.	.	11,545 73
			<u>61,806 97</u>
Lynn Shore Reservation:			
Labor and teaming:			
General.	.	.	\$6,845 78
Road repairs	.	.	442 58
			<u>\$7,288 36</u>
Street lighting	.	.	2,520 00
Supplies and miscellaneous expenses:			
General.	.	.	\$1,918 78
Road repairs	.	.	65 56
			<u>1,984 34</u>
			11,792 70
Winthrop Shore Reservation:			
Labor and teaming:			
General.	.	.	\$5,387 51
Road repairs	.	.	422 47
			<u>\$5,809 98</u>
Street lighting	.	.	665 28
Supplies and miscellaneous expenses:			
General.	.	.	\$1,696 86
Road repairs	.	.	313 02
			<u>2,009 88</u>
			8,485 14
Charles River Upper Division:			
Labor and teaming:			
General	.	.	\$45,155 81
Moth work	.	.	3,128 11
Road repairs	.	.	805 83
			<u>\$49,089 75</u>
Street lighting	.	.	1,471 56
Supplies and miscellaneous expenses:			
General.	.	.	\$17,863 18
Road repairs	.	.	1,789 77
			<u>19,652 95</u>
			70,214 26
Riverside Recreation Grounds:			
Labor and teaming:			
General.	.	.	\$4,539 60
Supplies and miscellaneous expenses:			
General.	.	.	\$2,577 41
Road repairs	.	.	35 95
			<u>2,613 36</u>
			7,152 96
Beaver Brook Reservation:			
Labor and teaming:			
General.	.	.	\$2,122 76
Moth work	.	.	976 50
			<u>\$3,099 26</u>
Supplies and miscellaneous expenses:			
General.	.	.	961 09
			<u>4,060 35</u>
Cambridge Parkway:			
Labor and teaming:			
General	.	.	\$28,235 05
Moth work	.	.	271 45
Road repairs	.	.	2,112 35
			<u>\$30,618 85</u>



Metropolitan Parks Maintenance Fund, General—Concluded

Street lighting					\$3,858 87		
Supplies and miscellaneous expenses:							
General.					\$12,584 65		
Road repairs					5,228 05		
						17,812 70	
							\$52,290 42
							\$726,625 98
Balance December 1, 1925							\$51,769 40

METROPOLITAN PARKS MAINTENANCE FUND — SPECIALS

<i>Band Concerts</i>							
Appropriation							\$20,000 00
<i>Expenditures</i>							
Advertising						\$29 80	
Bands:							
Blue Hills Division					\$980 00		
Middlesex Fells Division					2,862 70		
Revere Beach Division					3,857 50		
Charles River Upper Division					2,791 04		
Nantasket Beach Division					9,147 52		
						19,638 76	
							19,668 56
Balance December 1, 1925							\$331 44

<i>Clearing Woods</i>							
Appropriation (amount approved for Workmen's Compensation Act)							\$2,883 86
Expended to December 1, 1924							694 72
							\$2,189 14
<i>Expenditures</i>							
Industrial accident compensation							677 85
Balance December 1, 1925							\$1,511 29

<i>WESTERLY BORDER ROAD, WEST ROXBURY PARKWAY</i>							
Appropriation (Chapter 353, Acts of 1924)							\$40,000 00
Expended to December 1, 1924							28,129 59
							\$11,870 41
<i>Expenditures</i>							
Construction:							
Contract, James H. Fannon						\$5,528 29	
Engineering:							
Salaries					\$651 00		
Expenses					49 74		
						700 74	
							6,229 03
Balance December 1, 1925							\$5,641 38

<i>NAHANT BEACH PLAYGROUND</i>							
Appropriation (Chapter 430, Acts of 1924)							\$5,000 00
Expended to December 1, 1924							2,651 28
							\$2,348 72
<i>Expenditures</i>							
Playground apparatus							381 22
Balance December 1, 1925							\$1,967 50

<i>IMPROVEMENT OF LAND ADJOINING ALEWIFE BROOK</i>							
Appropriation (Chapter 247, Acts of 1925)							\$3,000 00
<i>Expenditures</i>							
Improvements:							
Labor						\$1,690 08	
Materials						1,004 80	
							2,694 88
Balance December 1, 1925							\$305 12

<i>ELIOT CIRCLE, REVERE STREET ROADWAY</i>							
Appropriation (Chapter 432, Acts of 1924)							\$90,000 00
Expended to December 1, 1924							26,633 05
							\$63,366 95

Metropolitan Parks Maintenance Fund — Specials — Concluded  
Expenditures

Construction:			
Contract, Simpson Bros. Corporation		\$50,012 56	
Engineering:			
Salaries	\$1,137 07		
Expenses	61 75		
		1,198 82	\$51,211 38
Balance December 1, 1925			\$12,155 57

ELECTRIC LIGHTING SYSTEM, REVERE BEACH

Appropriation (Chapter 362, Acts of 1924)		\$50,000 00
Expended to December 1, 1924		\$50,000 00

Expenditures

Wire, cables and conduits		\$19,559 75	
Ornamental posts, lamps, etc.		13,945 73	
Engineering:			
Salaries	\$337 35		
Expenses	11 42		
		348 77	33,854 25
Balance December 1, 1925			\$16,145 75

RECONSTRUCTION OF ROADWAY FROM BROOKLINE STREET TO MASSACHUSETTS AVENUE

Appropriation (Chapter 211, Acts of 1925)		\$33,200 00
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Expenditures

Advertising		\$68 78	
Construction:			
Contract, Reynolds Bros., Inc.	\$31,865 11		
Labor and materials	203 59		
		32,068 70	
Engineering:			
Salaries	\$1,046 72		
Expenses	15 80		
		1,062 52	33,200 00

ACQUIRING LAND OF LAWRENCE ESTATE

Appropriation (Chapter 324, Acts of 1925)		\$160,000 00
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Expenditures

Land		160,000 00
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INVESTIGATION, SPRING STREET, DEDHAM

Appropriation (Chapter 14, Resolves of 1925)		\$500 00
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Expenditures

Engineering:			
Salaries		493 35	
Balance December 1, 1925			\$6 65

METROPOLITAN PARKS MAINTENANCE FUND, BOULEVARDS — GENERAL

Appropriation, December 1, 1924, to December 1, 1925		\$421,000 00
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Expenditures

General expense:			
Police:			
Payrolls	\$84,286 94		
Miscellaneous	8,669 89		
		\$92,956 83	
Salaries:			
Commissioners	\$2,500 00		
Secretary and clerks	10,674 94		
Engineering department	17,143 09		
		30,318 03	
Rent, care and lighting of building		2,223 68	
Supplies and miscellaneous expenses:			
General office	\$4,901 21		
Engineering department	1,264 89		
		6,166 10	\$131,664 64
Blue Hills Parkway:			
Labor and teaming:			
General	\$6,483 51		
Moth work	45 50		
		\$6,529 01	
Street lighting		2,867 36	



*Metropolitan Parks Maintenance Fund, Boulevards — General — Continued*

Supplies and miscellaneous expenses:			
General.	\$877 63		
Road repairs	15 77		
		\$893 40	
			\$10,289 77
Neponset River Parkway:			
Labor and teaming:			
General.	\$1,332 00		
Moth work	22 75		
			1,354 75
Furnace Brook Parkway:			
Labor and teaming:			
General.	\$6,183 30		
Road repairs	940 75		
		\$7,124 05	
Street lighting		3,223 69	
Supplies and miscellaneous expenses:			
General.	\$984 29		
Road repairs	170 50		
		1,154 79	
			11,502 53
West Roxbury Parkway:			
Labor and teaming:			
General.	\$809 84		
Moth work	841 95		
		\$1,651 79	
Supplies and miscellaneous expenses:			
General.		74 42	
			1,726 21
Old Colony Parkway:			
Labor and teaming:			
General.	\$3,757 95		
Moth work	168 35		
Road repairs	110 12		
		\$4,036 42	
Street lighting		1,449 63	
Supplies and miscellaneous expenses:			
General.	\$273 00		
Road repairs	381 15		
		654 15	
			6,140 20
Dedham Parkway:			
Labor and teaming:			
Road repairs	\$468 52		
Supplies and miscellaneous expenses:			
Road repairs	552 03		
			1,020 55
Neponset Bridge:			
General labor	\$7,741 45		
Street lighting	1,328 07		
General supplies and miscellaneous expenses	1,199 70		
			10,269 22
Middlesex Fells Parkway:			
Labor and teaming:			
General.	\$23,091 88		
Moth work	357 68		
Road repairs	6,325 28		
		\$29,774 84	
Street lighting		13,778 54	
Supplies and miscellaneous expenses:			
General	\$8,487 61		
Road repairs	1,831 52		
		10,319 13	
			53,872 51
Mystic Valley Parkway:			
Labor and teaming:			
General.	\$19,463 84		
Moth work	797 44		
Road repairs	2,542 20		
		\$22,803 48	
Street lighting		5,840 79	
Supplies and miscellaneous expenses:			
General.	\$4,654 24		
Road repairs	3,077 51		
		7,731 75	
			36,376 02
Lynn Fells Parkway:			
Labor and teaming:			
General.	\$5,916 30		
Moth work	40 09		
Road repairs	264 82		
		\$6,221 21	
Street lighting		885 92	

## Metropolitan Parks Maintenance Fund, Boulevards — General — Continued

Supplies and miscellaneous expenses:			
General.	\$1,529 58		
Road repairs	132 56		
		\$1,662 14	
			\$8,769 27
Middlesex Fells Roads:			
Labor and teaming:			
General.	\$6,565 26		
Road repairs	3,037 14		
		\$9,602 40	
Street lighting		2,804 00	
Supplies and miscellaneous expenses:			
General.	\$2,015 41		
Road repairs	318 82		
		2,334 23	
			14,740 63
Woburn Parkway:			
Labor and teaming:			
General.	\$4,313 96		
Moth work	261 09		
Road repairs	46 50		
		\$4,621 55	
Supplies and miscellaneous expenses:			
General		1,254 55	
			5,876 10
Alewife Brook Parkway:			
Labor and teaming:			
General.	\$12,337 44		
Moth work	562 95		
Road repairs	401 85		
		\$13,302 24	
Street lighting		817 23	
Supplies and miscellaneous expenses:			
General.	\$3,019 75		
Moth work	22 61		
Road repairs	102 33		
		3,144 69	
			17,264 16
Revere Beach Parkway:			
Labor and teaming:			
General.	\$28,489 83		
Moth work	133 82		
Road repairs	1,754 85		
		\$30,378 50	
Street lighting		10,336 56	
Supplies and miscellaneous expenses:			
General.	\$5,658 75		
Moth work	12 34		
Road repairs	1,553 72		
		7,224 81	
			47,939 87
Nahant Beach Parkway:			
Labor and teaming:			
General.	\$6,159 77		
Moth work	40 09		
		\$6,199 86	
Street lighting		980 00	
Supplies and miscellaneous expenses:			
General.		181 39	
			7,361 25
Winthrop Parkway:			
Labor and teaming:			
General.	\$2,060 10		
Road repairs	94 50		
		\$2,154 60	
Street lighting		1,468 51	
Supplies and miscellaneous expenses:			
General.		1 03	
			3,624 14
Lynnway:			
Labor and teaming:			
General.	\$10,170 39		
Road repairs	272 12		
		\$10,442 51	
Street lighting		231 33	
Supplies and miscellaneous expenses:			
General.	\$1,572 42		
Road repairs	120 19		
		1,692 61	
			12,366 45



Metropolitan Parks Maintenance Fund, Boulevards — General — Concluded

Hammond Pond Parkway:			
Labor and teaming:			
General.	.	.	\$1,224 00
Moth work	.	.	1,476 00
			<u>\$2,700 00</u>
Supplies and miscellaneous expenses:			
General.	.	.	87 46
			<u>\$2,787 46</u>
Fresh Pond Parkway:			
Labor and teaming:			
General.	.	.	\$1,803 00
Moth work	.	.	272 40
Road repairs	.	.	324 00
			<u>\$2,399 40</u>
Street lighting	.	.	330 00
Supplies and miscellaneous expenses:			
General.	.	.	\$473 68
Moth work	.	.	3 82
Road repairs	.	.	315 67
			<u>793 17</u>
			3,522 57
Massachusetts Avenue Bridge:			
General labor	.	.	\$1,863 00
Street lighting	.	.	1,722 63
General supplies and miscellaneous expenses	.	.	266 36
			<u>3,851 99</u>
			\$392,320 29
Balance December 1, 1925	.	.	\$28,679 71

METROPOLITAN PARKS MAINTENANCE FUND, BOULEVARDS — SPECIALS

BLUE HILL RIVER ROAD			
Appropriation (Chapter 211, Acts of 1925)	.	.	\$75,000 00
No expenditures	.	.	.....
Balance December 1, 1925	.	.	\$75,000 00
SIDEWALKS, BLUE HILLS PARKWAY			
Appropriation (Chapter 126, Acts of 1924)	.	.	\$6,000 00
Expended to December 1, 1924	.	.	1,006 88
			<u>\$4,993 12</u>
Expenditures			
Contract, John A. McCarthy	.	.	734 16
Balance December 1, 1925	.	.	\$4,258 96
STONEHAM-WAKEFIELD PARKWAY			
Appropriation (Chapter 409, Acts of 1924)	.	.	\$5,000 00
Expenditures			
Engineering:			
Salaries	.	.	\$550 10
Expenses	.	.	2 40
			<u>\$552 50</u>
Labor	.	.	135 00
			<u>687 50</u>
Balance December 1, 1925	.	.	\$4,312 50
BOULEVARD, HYDE PARK DISTRICT			
Appropriation (Chapter 370, Acts of 1924)	.	.	\$10,000 00
Expended to December 1, 1924	.	.	8,499 37
			<u>\$1,500 63</u>
Expenditures			
Contract, Frank Williams	.	.	\$1,479 55
Engineering:			
Expense	.	.	7 68
			<u>1,487 23</u>
Balance December 1, 1925	.	.	\$13 40
Installation Electric Lighting System			
Appropriation (Chapter 211, Acts of 1925)	.	.	\$50,000 00
Expenditures			
Wire, cables and conduits	.	.	\$17,611 90
Ornamental posts, lamps, etc.	.	.	15,736 60
			<u>33,348 50</u>
Balance December 1, 1925	.	.	\$16,651 50





## NANTASKET BEACH MAINTENANCE

Appropriation . . . . .			\$80,500 00
<i>Expenditures</i>			
Police:			
Payrolls . . . . .	\$23,442 71		
Miscellaneous . . . . .	5,250 71		
		\$28,693 42	
Labor and teaming:			
General . . . . .	\$34,782 37		
Road repairs . . . . .	3,197 10		
		37,979 47	
Street lighting . . . . .		1,294 41	
Supplies and miscellaneous expenses:			
General . . . . .	\$10,699 83		
Road Repairs . . . . .	1,687 34		
		12,387 17	
			80,354 47
Balance December 1, 1925 . . . . .			\$145 53

## WELLINGTON BRIDGE MAINTENANCE

Appropriation . . . . .			\$17,000 00
<i>Expenditures</i>			
General labor . . . . .		\$11,772 95	
Street lighting . . . . .		2,002 84	
General supplies and miscellaneous expenses . . . . .		2,265 32	
			16,041 11
Balance December 1, 1925 . . . . .			\$958 89

## BUNKER HILL MAINTENANCE

Appropriation . . . . .			\$10,500 00
<i>Expenditures</i>			
Police:			
Payrolls . . . . .	\$3,954 58		
Miscellaneous . . . . .	200 61		
		\$4,155 19	
Labor and teaming:			
General . . . . .	\$4,335 85		
Moth work . . . . .	55 20		
		4,391 05	
Supplies and miscellaneous expense:			
General . . . . .		991 24	
			9,537 48
Balance December 1, 1925 . . . . .			\$962 52

## METROPOLITAN PARKS EXPENSE FUND

*Receipts, December 1, 1924, to December 1, 1925*

Bath-houses:			
Revere Beach:			
Sale of bath tickets . . . . .	\$32,639 10		
Miscellaneous . . . . .	668 16		
		\$33,307 26	
Nantasket Beach:			
Sale of bath tickets . . . . .	\$18,233 70		
Miscellaneous . . . . .	3,548 54		
		21,782 24	
Nahant Beach:			
Sale of bath tickets . . . . .	\$10,487 85		
Miscellaneous . . . . .	82 51		
		10,570 36	
Magazine Beach:			
Sale of bath tickets . . . . .	\$2,707 45		
Miscellaneous . . . . .	162 50		
		2,869 95	
Blue Hills:			
Sale of bath tickets . . . . .	\$416 70		
Miscellaneous . . . . .	1 00		
		417 70	
			\$68,947 51
Rentals:			
Buildings . . . . .		\$37,027 39	
Land . . . . .		4,814 66	
Ducts . . . . .		1,692 65	
Locations . . . . .		1,246 48	
Houses . . . . .		1,171 68	
Miscellaneous . . . . .		1 00	
			45,953 86

Metropolitan Parks Expense Fund — Continued

Sales:			
Wood		\$4,208 43	
Old metal, rags, etc		1,075 72	
Hay and grass		495 00	
Land		310 00	
Miscellaneous		343 40	
			\$6,432 55
Income from securities			11,128 13
Court fines			10,782 00
Privileges			9,262 50
City of Quincy, account Black's Creek Dam			7,500 00
Construction of terminal houses			6,865 15
Police services			6,050 73
Sidewalk and entrance construction			2,458 85
Boat hire			878 20
Damage to property, reimbursements			631 17
Miscellaneous			413 13
			\$177,303 78

Expenditures, December 1, 1924, to December 1, 1925

General Expense:			
Interest		\$2,426 10	
Miscellaneous		122 92	
			\$2,549 02
Police:			
Repairs		\$266 56	
Police services		195 89	
			462 45
Engineering:			
Miscellaneous			138 15
Blue Hills Reservation:			
Repairs to houses		\$229 23	
Bath house expense		21 19	
			250 42
Stony Brook Reservation:			
Repairs to houses, etc.			33 14
Quincy Shore Reservation:			
Miscellaneous			119 83
Blue Hills Parkway:			
Sidewalk and entrance construction:			
Contract, J. A. McCarthy		\$179 62	
Refunds		179 26	
			358 88
Black's Creek Dam:			
Advertising		\$48 15	
Construction:			
Contract, W. A. Norton Co.		\$13,473 92	
Labor and materials		1,775 57	
		15,249 49	
Engineering expense		8 15	
			15,305 79
Middlesex Fells Reservation:			
City of Medford, taxes		\$1,343 57	
Miscellaneous		138 52	
			1,482 09
Middlesex Fells Parkway:			
Sidewalk and entrance construction:			
Cost		\$1,345 88	
Refunds		216 85	
		\$1,562 73	
Excavating		1,312 50	
			2,875 23
Mystic Valley Parkway:			
Sidewalk and entrance construction:			
Cost		\$91 40	
Refunds		18 84	
			110 24
Lynn Fells Parkway:			
Sidewalk and entrance construction:			
Refunds			148 32
Alewife Brook Parkway:			
Entrance construction:			
Cost			55 19
Revere Beach Reservation:			
Bath-house:			
Payrolls		\$26,013 79	
Alterations and repairs		16,086 61	



Metropolitan Parks Expense Fund — Continued

Bathing suits . . . . .	\$2,760 20		
Stockings . . . . .	240 10		
Towels . . . . .	262 39		
Findings . . . . .	43 45		
Neck bands and keys. . . . .	321 30		
Bathing caps . . . . .	132 30		
Coal . . . . .	1,414 52		
Lighting . . . . .	762 96		
Engine-room . . . . .	501 05		
Paint, hardware and lumber . . . . .	96 24		
Stationery . . . . .	272 31		
Telephones . . . . .	43 37		
Tickets . . . . .	46 73		
Medicines and attendance . . . . .	75 72		
Supplies and miscellaneous expenses . . . . .	1,057 89	\$50,130 93	
Entrance construction:			
Cost . . . . .	\$230 25		
Refunds . . . . .	4 45		
		234 70	
Advertising . . . . .		85 55	
Supplies and miscellaneous expenses . . . . .		63 00	
			\$50,514 18
Winthrop Shore Reservation:			
Entrance construction:			
Cost . . . . .		\$24 75	
Refund . . . . .		9 22	
			33 97
Revere Beach Parkway:			
Entrance construction:			
Cost . . . . .			45 00
Nahant Beach Parkway:			
Bath-house:			
Payrolls . . . . .		\$7,733 06	
Alterations and repairs . . . . .		11,808 71	
Stockings . . . . .		120 05	
Towels . . . . .		172 05	
Findings . . . . .		8 83	
Neck bands and keys. . . . .		114 33	
Lighting . . . . .		178 27	
Engine-room . . . . .		29 09	
Hardware, lumber and paint . . . . .		220 68	
Telephones . . . . .		114 97	
Tickets, etc. . . . .		21 80	
Medicines and attendance . . . . .		4 36	
Supplies and miscellaneous expenses . . . . .		682 45	
			21,208 65
Charles River Upper Division:			
Altering stable for headquarters:			
Advertising . . . . .	\$52 65		
Contract, John P. Curley . . . . .	14,570 75		
Architect's services . . . . .	1,324 68		
Fittings for new station . . . . .	1,451 73		
		\$17,399 81	
Filling material . . . . .		28,348 03	
Land . . . . .		425 00	
Entrance construction:			
Cost . . . . .	\$163 50		
Refund . . . . .	27 50		
		191 00	
Miscellaneous . . . . .		125 40	
			46,489 24
Riverside Recreation Grounds:			
Miscellaneous . . . . .			48 40
Fresh Pond Parkway:			
Labor . . . . .			3,782 25
Charles River Lower Basin:			
Magazine Beach Bath-house:			
Payrolls . . . . .	\$2,668 54		
Alterations and repairs . . . . .	463 84		
Towels . . . . .	72 01		
Neck bands and keys. . . . .	93 40		
Engine-room . . . . .	11 14		
Hardware, lumber and paint . . . . .	67 82		
Stationery . . . . .	28 42		
Medicines and attendance . . . . .	5 93		
Supplies and miscellaneous expenses . . . . .	87 69		
		\$3,498 79	
Miscellaneous . . . . .		36 37	
			3,535 16

Metropolitan Parks Expense Fund — Concluded

Cambridge Parkway:		
Temporary road at Western Avenue:		
Labor and materials . . . . .	\$2,747 12	
Miscellaneous . . . . .	397 57	
		\$3,144 69
Memorial Drive:		
Labor and materials . . . . .		2,510 88
		\$5,655 57
Bunker Hill Monument:		
Alterations and repairs . . . . .		2,328 37
Nantasket Beach Reservation:		
Bath-house:		
Payrolls . . . . .	\$14,690 44	
Alterations and repairs . . . . .	3,257 77	
Bathing suits . . . . .	282 40	
Towels . . . . .	270 36	
Findings . . . . .	16 39	
Bathing caps . . . . .	55 12	
Neck bands and keys . . . . .	27 99	
Coal . . . . .	1,357 87	
Lighting . . . . .	132 05	
Engine-room . . . . .	341 70	
Hardware, lumber and paint . . . . .	120 76	
Stationery . . . . .	29 39	
Telephones . . . . .	44 10	
Tickets, etc. . . . .	19 32	
Supplies and miscellaneous expenses . . . . .	1,231 25	
		\$21,876 91
Alterations and repairs . . . . .		7,619 08
		29,495 99
		\$187,025 53

METROPOLITAN PARKS TRUST FUND

Receipts for the year ending November 30, 1925 . . . . .	\$103 71	
Receipts for the period prior to December 1, 1924 . . . . .	40,673 21	
		\$40,776 92
<i>Expenditures</i>		
For the period prior to December 1, 1925 . . . . .		38,106 50
Balance, December 1, 1925 . . . . .		\$2,670 42

EDWIN U. CURTIS MEMORIAL TRUST FUND

Receipts for the year ending November 30, 1925 . . . . .	\$40 03	
Receipts for the period prior to December 1, 1925 . . . . .	1,334 37	
		\$1,374 40

GENERAL REVENUE

Bunker Hill Monument:		
Receipts:		
For the year ending November 30, 1925 . . . . .	\$4,583 10	
For the period prior to December 1, 1924 . . . . .	12,097 80	
		\$16,680 90

Summary of General Expense for Year Ending Nov. 30, 1925

	Parks Maintenance Fund, General	Parks Maintenance Fund, Boulevards, General	Parks Expense Fund	Parks Loan Fund	Totals
Commissioners . . . . .	\$2,500 00	\$2,500 00	—	—	\$5,000 00
Office salaries . . . . .	8,428 35	10,674 94	—	—	19,103 29
Engineering . . . . .	15,677 29	17,143 09	138 15	—	32,958 53
Police . . . . .	223,262 34	92,956 83	462 45	—	316,681 62
Rent, lighting and care, Boston office . . . . .	4,499 98	2,223 68	—	—	6,723 66
Miscellaneous . . . . .	6,208 93	6,166 10	2,549 02	\$60 00	4,984 05
Totals . . . . .	\$260,576 89	\$131,664 64	\$3,149 62	\$60 00	\$395,451 15



Summary of Expenditures for Year ending Nov. 30, 1925

	Metropolitan Parks Loan Fund	Metropolitan Parks Maintenance Fund, General	Metropolitan Parks Expense Fund	Special Appropriations, Repairs, Construction and Investigations	Band Concerts	Totals
Reservations:						
Blue Hills . . . . .	-	\$89,121 97	\$250 42	-	-	\$89,372 39
Beaver Brook . . . . .	-	4,060 35	-	-	-	4,060 35
Charles River, Upper Division . . . . .	-	70,214 26	46,489 24	\$493 35	\$985 00	118,181 85
Lynn Shore . . . . .	-	11,792 70	-	-	-	11,792 70
Middlesex Fells . . . . .	\$50 00	97,580 97	1,482 09	160,677 85	129 60	259,920 51
Mystic River . . . . .	-	14,672 27	-	-	-	14,672 27
Neponset River . . . . .	-	2,243 62	-	-	-	2,243 62
Quincy Shore . . . . .	-	15,641 52	119 83	-	980 00	16,741 35
Revere Beach . . . . .	-	61,806 97	50,514 18	85,065 63	2,180 00	199,566 78
Riverside Recreation Grounds . . . . .	-	7,152 96	48 40	-	1,806 04	9,007 40
Stony Brook . . . . .	-	10,379 64	33 14	-	-	10,412 78
Winthrop Shore . . . . .	60 00	8,485 14	33 97	-	-	8,519 11
Cambridge Parkway . . . . .	-	52,290 42	5,655 57	33,200 00	-	91,145 99
General expense . . . . .	-	281,183 19	-	-	29 80	281,272 99
Totals . . . . .	\$110 00	\$726,625 98	\$104,626 84	\$279,436 83	\$6,110 44	\$1,116,910 09

	Metropolitan Parks Loan Fund, Series II	Metropolitan Parks Maintenance Fund, Boulevards	Metropolitan Parks Expense Fund	Special Appropriations, Repairs, Construction and Investigation	Band Concerts	Totals
Parkways:						
Alewife Brook . . . . .	-	\$17,264 16	\$55 19	\$2,694 88	-	\$20,014 23
Blue Hills . . . . .	-	10,289 77	358 88	9,805 95	-	20,454 60
Dedham . . . . .	-	1,020 55	-	-	-	1,020 55
Fresh Pond . . . . .	-	3,522 57	3,782 25	-	-	7,304 82
Furnace Brook . . . . .	\$27,413 65	11,502 53	15,305 79	62,850 80	-	117,072 77
Hammond Pond . . . . .	-	2,787 46	-	-	-	2,787 46
Lynn Fells . . . . .	-	8,769 27	148 32	-	\$140 00	9,057 59
Lynnway . . . . .	-	12,366 45	-	-	-	12,366 45
Middlesex Fells . . . . .	-	53,872 51	2,875 23	88,326 03	1,337 50	146,411 27
Middlesex Fells Roads . . . . .	-	14,740 63	-	-	-	14,740 63
Mystic Valley . . . . .	713 00	36,376 02	110 24	-	165 00	37,364 26
Nahant Beach . . . . .	-	7,361 25	21,208 65	381 22	1,677 50	30,628 62
Neponset River . . . . .	-	1,354 75	-	1,487 23	-	2,841 98
Nonantum Road . . . . .	-	-	-	-	-	-
Old Colony . . . . .	536,104 76	6,140 20	-	-	-	542,244 96
Quannapowitt . . . . .	-	-	-	-	875 00	875 00
Revere Beach . . . . .	-	47,939 87	45 00	43,170 82	-	91,155 69
Stoneham-Wakefield . . . . .	-	-	-	687 50	-	687 50
West Roxbury . . . . .	-	1,726 21	-	8,082 97	-	9,809 18
Winthrop . . . . .	-	3,624 14	-	880 33	-	3,624 14
Woburn . . . . .	-	5,876 10	-	-	215 60	6,091 70
Mass. Ave. Bridge . . . . .	-	3,851 99	-	133,583 37	-	137,435 36
Neponset Bridge . . . . .	66,927 28	10,269 22	-	-	-	77,196 50
General expense . . . . .	-	131,664 64	3,149 62	-	-	134,814 26
Totals . . . . .	\$631,158 69	\$392,320 29	\$47,039 17	\$351,070 77	\$4,410 60	\$1,425,999 52

Summary of Expenditures for Year ending November 30, 1925—Concluded

	Metropoli- tan Parks Expense Fund	Special Ap- propriations, Repairs, Construction and In- vestigations	Band Concerts	Totals
Nantasket Beach Reservation . . . . .	\$29,495 99	\$80,354 47	\$9,147 52	\$118,997 98
Wellington Bridge . . . . .	—	16,041 11	—	16,041 11
Charles River Basin . . . . .	3,535 16	207,203 26 <sup>1</sup>	—	210,738 42
Bunker Hill Monument . . . . .	2,328 37	9,537 48	—	11,865 85
Northern Traffic Route . . . . .	—	113,559 05 <sup>2</sup>	—	113,559 05
Charles River Bridges . . . . .	—	408,435 83 <sup>2</sup>	—	408,435 83

<sup>1</sup> Maintenance. <sup>2</sup> Loan.

SUMMARY OF EXPENDITURES FOR THE YEAR ENDING NOVEMBER 30, 1925

Metropolitan Parks Loan Fund . . . . .	\$110 00
Metropolitan Parks Loan Fund, Series II . . . . .	631,158 69
Metropolitan Parks Maintenance Fund, General . . . . .	726,625 98
Metropolitan Parks Maintenance Fund, Boulevards, General . . . . .	392,320 29
Metropolitan Parks Expense Fund . . . . .	187,025 53
Special Appropriations, Repairs, Construction and Investigations . . . . .	1,465,638 80
Band Concerts . . . . .	19,668 56
Total. . . . .	\$3,422,547 85

WATER AND SEWERAGE DIVISIONS  
WATER WORKS — CONSTRUCTION

(1) WATER LOANS — RECEIPTS AND PAYMENTS

Total loans authorized to December 1, 1925 . . . . .	\$45,915,000 00
Receipts from the sales of property applicable to the construction and acquisition of works:	
For the period prior to December 1, 1924 . . . . .	\$287,839 93
For the year ending November 30, 1925 . . . . .	10,164 72
	298,004 65
Receipt from the town of Swampscott for admission to district (St. 1909, c. 320) . . . . .	90,000 00
Receipt from the town of Brookline for admission to district (St. 1925, c. 308) . . . . .	400,000 00
Total amount authorized to December 1, 1925. . . . .	\$46,703,004 65
Expended from Water Loan Fund:	
For the period prior to December 1, 1924 . . . . .	\$44,879,531 15
For the year ending November 30, 1925 . . . . .	1,370,288 73
	46,249,819 88
Balance, December 1, 1925 . . . . .	\$453,184 77

(2) TOTAL WATER DEBT, NOVEMBER 30, 1925

Water Loan Outstanding, Sinking Fund and Debt

Bonds issued by the Treasurer of the Commonwealth:	
Sinking fund bonds . . . . .	\$41,398,000 00
Serial bonds . . . . .	4,287,000 00
Total bond issue to November 30, 1925 . . . . .	\$45,685,000 00
Serial bonds paid prior to December 1, 1924 . . . . .	\$422,000 00
Serial bonds paid in 1925 . . . . .	85,000 00
	507,000 00
Total bond issue outstanding November 30, 1925 . . . . .	\$45,178,000 00
Gross water debt . . . . .	\$45,178,000 00
Sinking fund, November 30, 1925 . . . . .	22,478,585 22
Net water debt, November 30, 1925 . . . . .	\$22,699,414 78
A decrease for the year of \$29,242 32	



(3) METROPOLITAN WATER LOAN AND SINKING FUND, NOVEMBER 30, 1925

YEAR	Authorized Loans	Bonds issued (Sinking Fund)	Bonds issued (Serial Bonds)	Sinking Fund
1895 . . .	\$27,000,000	\$5,000,000	—	\$226,286 05
1896 . . .	—	2,000,000	—	699,860 70
1897 . . .	—	6,000,000	—	954,469 00
1898 . . .	—	4,000,000	—	1,416,374 29
1899 . . .	—	3,000,000	—	1,349,332 97
1900 . . .	—	1,000,000	—	1,573,619 72
1901 . . .	13,000,000	10,000,000	—	1,662,426 95
1902 . . .	—	3,500,000	—	2,256,803 81
1903 . . .	—	1,500,000	—	2,877,835 59
1904 . . .	—	2,500,000	—	3,519,602 92
1905 . . .	—	650,000	—	4,207,045 69
1906 . . .	500,000	1,350,000	—	4,897,822 62
1907 . . .	—	—	—	5,643,575 69
1908 . . .	398,000	—	—	6,419,283 28
1909 . . .	900,000	398,000	—	7,226,262 31
1910 . . .	80,000	500,000	—	8,089,902 91
1911 . . .	212,000	—	\$200,000	8,953,437 44
1912 . . .	600,000	—	190,000	9,829,356 80
1913 . . .	108,000	—	—	10,767,701 68
1914 . . .	—	—	258,000	11,533,453 45
1915 . . .	—	—	490,000	12,491,245 25
1916 . . .	—	—	66,000	13,268,199 36
1917 . . .	—	—	150,000	14,036,278 88
1918 . . .	115,000	—	—	14,870,834 84
1919 . . .	67,000	—	161,000	15,904,545 14
1920 . . .	2,705,000	—	34,000	16,953,165 15
1921 . . .	—	—	—	18,147,014 21
1922 . . .	—	—	500,000	19,230,940 55
1923 . . .	—	—	100,000	20,278,381 86
1924 . . .	—	—	1,000,000	21,396,342 90
1925 . . .	230,000	—	1,138,000	22,478,585 22
	\$45,915,000	\$41,398,000	\$4,287,000	—

(4) WATER ASSESSMENT, 1925

The following water assessment was made by the Treasurer of the Commonwealth upon the various municipalities: —

Sinking fund requirements . . . . .	\$179,049 03
Serial bonds . . . . .	\$115,000 00
Less premium . . . . .	26,618 96
	88,381 04
Interest . . . . .	1,518,805 45
Maintenance:	
Appropriated by Legislature . . . . .	\$785,900 00
Less balance on hand . . . . .	44,719 43
	741,180 57
Credit to Brookline for water furnished . . . . .	81,544 43
Total water assessment for 1925 . . . . .	\$2,608,960 52

(5) SUPPLYING WATER TO CITIES AND TOWNS OUTSIDE OF DISTRICT AND TO WATER COMPANIES

Sums have been received during the year 1925 under the provisions of the Metropolitan Water Act, for water furnished, as follows: —

Town of Framingham . . . . .	\$9,118 58
City of Revere (on account of water furnished to a portion of the town of Saugus for the year 1924) . . . . .	1,550 00
United States Government (for Peddock's Island) . . . . .	1,600 23
Westboro State Hospital . . . . .	2,082 72
City of Worcester . . . . .	19,680 00
City of Newton . . . . .	7,887 09
	<u>\$41,918 62</u>

The sums so received prior to March 23, 1907, were annually distributed among the cities and towns of the District, but since that date, in accordance with provisions of Chapter 238 of the Acts of 1907, the sums so received have been paid into the sinking fund.

(6) EXPENDITURES FOR THE DIFFERENT WORKS

The following is a summary of the expenditures made in the various operations for the different works: —

CONSTRUCTION AND ACQUISITION OF WORKS	For the Year ending November 30, 1925
Administration applicable to all parts of the construction and acquisition of the works . . . . .	\$4 17
Distribution System:	
Improving Wachusett Reservoir . . . . .	\$2,964 28
Northern high service pipe lines . . . . .	85,472 60
Additional pumping machinery at Spot Pond Pumping Station . . . . .	29,067 96
Low service pipe lines . . . . .	110,950 31
Southern high service pipe lines . . . . .	224 72
Northern extra high service:	
Arlington Reservoir . . . . .	12 00
Weston Aqueduct Supply Mains . . . . .	1,157,533 56
Meters and connections . . . . .	8,770 27
	<u>1,394,995 70</u>
	\$1,394,999 87
Stock — pipes, valves, castings, etc., purchased and sent first to storage yards, and later transferred as needed to the various parts of the work:—	
Amount received . . . . .	\$20,673 55
Transferred from storage yards to the various sections of the work and included in costs of special works . . . . .	45,384 69
	<u>24,711 14</u>
	\$1,370,288 73
Amount charged from beginning of work to December 1, 1924 . . . . .	44,879,531 15
Total for construction and acquisition of works to December 1, 1925	<u>\$46,249,819 88</u>

MAINTENANCE AND OPERATION	For the year Ending November 30, 1925
Administration . . . . .	\$10,712 21
General supervision . . . . .	27,568 85
Taxes and other expenses . . . . .	50,394 10
Filtration of water supply . . . . .	10,095 44
Wachusett Department:	
Superintendence . . . . .	\$11,266 22
Reservoir . . . . .	35,127 87
Forestry . . . . .	12,742 88
Protection of supply . . . . .	6,880 59
Buildings and grounds . . . . .	6,219 92
Wachusett Dam . . . . .	9,553 36
Wachusett Aqueduct . . . . .	14,354 25
Clinton Sewerage System:	
Pumping station . . . . .	1,432 42
Sewers, screens and filter-beds . . . . .	9,916 10
Sanitary inspection . . . . .	1,490 25
Swamp drainage . . . . .	6,582 99
Power plant . . . . .	12,517 56
Wachusett-Sudbury power transmission line . . . . .	123 01
Payments under industrial accident law and special benefit appropriations . . . . .	92 43
	<u>128,299 85</u>



MAINTENANCE AND OPERATION — Concluded		For the Year Ending November 30, 1925	
Sudbury Department:			
Superintendence, Framingham office		\$13,084	02
Ashland Reservoir		4,111	17
Hopkinton Reservoir		3,764	52
Whitehall Reservoir		4,403	16
Framingham Reservoirs Nos. 1, 2 and 3		17,460	04
Sudbury Reservoir		15,770	65
Lake Cochituate		10,841	57
Marlborough Brook filters		5,094	27
Pegan filters		5,825	98
Sudbury and Cochituate watersheds		2,568	63
Sanitary inspection		3,632	50
Cochituate Aqueduct		5,526	24
Sudbury Aqueduct		9,224	06
Weston Aqueduct		9,350	26
Forestry		9,659	01
Power Plant		11,445	34
Payments under industrial accident law and special benefit appropriations		113	43
			131,874 85
Distribution Department:			
Superintendence		\$11,083	19
Pumping service:			
Superintendence		8,508	25
Payments under industrial accident law and special benefit appropriations		1,319	87
Arlington Pumping Station, pumping service		15,365	14
Chestnut Hill low-service pumping station, pumping service No. 2		96,078	41
Chestnut Hill high-service pumping station, pumping service No. 1		38,199	94
Spot Pond Pumping Station, pumping service		26,197	45
Hyde Park Pumping Station, pumping service		10,823	27
Chelsea Reservoir			59
Bear Hill Reservoir		483	77
Chestnut Hill Reservoir and grounds		28,138	00
Fells Reservoir		1,875	67
Forbes Hill Reservoir		1,764	17
Mystic Lake, conduit and pumping station		3,022	47
Mystic Reservoir		1,120	43
Waban Hill Reservoir		730	12
Weston Reservoir		6,824	96
Spot Pond		11,048	75
Buildings at Spot Pond		1,720	52
Pipe lines:			
Low service		48,535	10
Northern high service		14,309	97
Northern extra high service		162	05
Southern high service		12,022	03
Southern extra high service		670	01
Supply pipe lines		4,411	75
Buildings at Chestnut Hill Reservoir		6,787	14
Chestnut Hill pipe yard		2,721	92
Glenwood pipe yard and buildings		4,155	15
Stables		8,228	36
Venturi meters		1,656	22
Measurement of water		4,006	66
Arlington Pumping Station, building and grounds		980	89
Hyde Park Pumping Station, building and grounds		431	35
Fisher Hill Reservoir		2,077	49
Bellevue Reservoir		362	40
Arlington Reservoir		721	17
Payments under industrial accident law and special benefit appropriations		383	71
Stock		815	58
			377,743 92
Credit amount received for coal penalties and telephone tolls			\$736,689 22
			454 58
Total for maintaining and operating works			\$736,234 64

(7) DETAILED FINANCIAL STATEMENT UNDER METROPOLITAN WATER ACT

The Commissioner herewith presents, in accordance with the requirements of the Metropolitan Water Act, a detailed statement of the expenditures and disbursements, receipts, assets and liabilities for the year 1925.

(a) Expenditures and Disbursements

The total amount of the expenditures and disbursements on account of construction and acquisition of works for the year beginning December 1, 1924, and ending November 30, 1925, was \$1,370,288.73 and the total amount from the time of the organization of the Metropolitan Water Board, July 19, 1895, to November 30, 1925 has been \$46,249,819.88.

For maintenance and operation the expenditures for the year were \$735,944.12.

The salaries of the commissioners, and the other expenses of administration, have been apportioned to the construction of the works and to the maintenance and operation of the same and appear under each of those headings.

The following is a division of the expenditures according to their general character: —

GENERAL CHARACTER OF EXPENDITURES	For the year ending November 30, 1925
CONSTRUCTION OF WORKS AND ACQUISITION BY PURCHASE OR TAKING	
Administration	
Stationery and printing . . . . .	\$4 17
Engineering	
Chief Engineer . . . . .	\$1,162 90
Principal assistant engineers . . . . .	5,865 31
Engineering assistants . . . . .	25,352 92
Inspectors . . . . .	13,763 63
Supplies and miscellaneous expenses . . . . .	2,299 41
	48,444 17
Construction	
Preliminary work:	
Advertising . . . . .	\$83 15
Contracts, Distribution System . . . . .	1,272,227 28
Additional work:	
Labor . . . . .	12,914 88
Municipal and corporation work . . . . .	25,280 25
Supplies and miscellaneous expenses . . . . .	7,974 09
	1,318,479 65
Real Estate	
Legal and expert . . . . .	\$390 74
Settlements made by Board . . . . .	2,970 00
	3,360 74
Amount charged from beginning of work to December 1, 1924 . . . . .	\$1,370,288 73 44,879,531 15
Total amount of construction expenditures to November 30, 1925.	\$46,249,819 88
MAINTENANCE AND OPERATION OF WORKS	For the Year ending November 30, 1925
Administration:	
Commissioners . . . . .	\$2,500 00
Secretary and assistants . . . . .	5,853 79
Rent, lighting and care of building . . . . .	1,094 26
Supplies and miscellaneous expenses . . . . .	1,264 16
	\$10,712 21
General supervision:	
Chief engineer and assistants . . . . .	\$20,869 74
Rent, lighting and care of building . . . . .	3,286 62
Supplies and miscellaneous expenses . . . . .	3,412 49
	27,568 85
Pumping service:	
Superintendence . . . . .	\$8,508 25
Labor . . . . .	119,121 99
Supplies and miscellaneous expenses . . . . .	68,862 09
	196,492 33
Reservoirs, aqueducts, pipe lines, buildings and grounds:	
Superintendence . . . . .	\$9,230 00
Engineering assistants . . . . .	22,705 84
Sanitary inspectors . . . . .	4,290 00
Labor . . . . .	333,010 47
Alterations and repairs of buildings . . . . .	4,209 85
Supplies and miscellaneous expenses . . . . .	59,922 59
Contracts . . . . .	8,057 54
	441,426 29
Payments in lieu of taxes. . . . .	50,394 10
Filtration of water supply . . . . .	10,095 44
	\$736,689 22
Credit amount received for coal penalties and telephone tolls . . . . .	454 58
Total expenditures for maintenance and operation . . . . .	\$736,234 64



(b) Receipts

The total amount of receipts from the operations of the Commission and from sales of property for the year beginning December 1, 1924, and ending November 30, 1925, was \$137,857.75 and the total amount from the time of the organization of the Metropolitan Water Board, July 19, 1895, to November 30, 1925, has been \$2,323,279.59. The general character of these receipts is as follows: —

GENERAL CHARACTER OF RECEIPTS	For the Year ending November 30, 1925
<i>Applicable to the loan fund:</i>	
Land and buildings . . . . .	\$250 00
Construction tools, supplies and reimbursements . . . . .	2,289 72
	<hr/> \$2,539 72
<i>Applicable to payment of interest, sinking fund requirements and expenses of maintenance and operation:</i>	
Proceeds from operations of the Board:	
Rents . . . . .	\$4,266 70
Land products . . . . .	4,895 25
Electric energy . . . . .	71,029 57
Maintenance labor, tools, supplies and reimbursements . . . . .	5,954 47
Interest and unclassified receipts . . . . .	7,708 00
	<hr/> 93,853 99
<i>Applicable to the sinking fund:</i>	
Water supplied to cities and towns, water companies and others. . .	41,918 62
	<hr/> \$138,312 33
Less amounts received for coal penalties and telephone tolls, credited to expenditures . . . . .	454 58
	<hr/> \$137,857 75
Amount credited from beginning of work to December 1, 1924 . . .	2,185,421 84
	<hr/>
Total receipts to December 1, 1925 . . . . .	\$2,323,279 59

SOURCES OF RECEIPTS	For the Year ending November 30, 1925
<i>Supplying water outside of water district</i>	
<i>Construction and acquisition of works:</i>	
Wachusett Reservoir . . . . .	\$250 00
Distribution System . . . . .	2,289 72
District entrance fees . . . . .	7,625 00
	<hr/> 10,164 72
<i>Maintenance and operation of works:</i>	
Administration . . . . .	\$123 80
General supervision . . . . .	243 24
Wachusett Aqueduct . . . . .	606 93
Wachusett Reservoir . . . . .	5,841 05
Wachusett Electric Power Plant . . . . .	38,574 85
Sudbury System . . . . .	1,667 39
Sudbury Electric Power Plant . . . . .	32,454 72
Distribution System . . . . .	5,305 96
Clinton Sewerage System . . . . .	1,411 05
	<hr/> 86,228 99
	<hr/> \$138,312 33
Less amounts received for coal penalties and telephone tolls, credited to expenditures . . . . .	454 58
	<hr/> \$137,857 75
Amount credited from beginning of work to December 1, 1924 . . . .	2,185,421 84
	<hr/>
Total receipts to December 1, 1925 . . . . .	\$2,323,279 59

SEWERAGE WORKS

(1) METROPOLITAN SEWERAGE LOANS, RECEIPTS AND PAYMENTS

The loans authorized for the construction of the Metropolitan Sewerage Works, the receipts which are added to the proceeds of these loans, the expenditures for construction, and the balances available on December 1, 1925 have been as follows: —

North Metropolitan System

Loans authorized under various acts to December 1, 1925, for the construction of the North Metropolitan System and the various extensions	\$8,288,500 00
Receipts from sales of real estate and from miscellaneous sources which are placed to the credit of the North Metropolitan System:	
For the year ending November 30, 1925	\$101 00
For the period prior to December 1, 1924	87,566 04
	<u>87,667 04</u>
	\$8,376,167 04
Amount approved for payment from the Metropolitan Sewerage Loan Fund, North System:	
For the year ending November 30, 1925	\$178,095 36
For the period prior to December 1, 1924	7,786,023 03
	<u>7,964,118 39</u>
Balance, North Metropolitan System, December 1, 1925	\$412,048 65

South Metropolitan System

Loans authorized under the various acts to December 1, 1925, applied to the construction of the Charles River Valley Sewer, Neponset Valley Sewer, High-level Sewer and extensions, constituting the South Metropolitan System	\$10,002,912 00
Receipts from pumping, sales of real estate and from miscellaneous sources, which are placed to the credit of the South Metropolitan System:	
For the year ending November 30, 1925	\$ -
For the period prior to December 1, 1924	24,599 61
	<u>24,599 61</u>
	\$10,027,511 61
Amount approved for payment from the Metropolitan Sewerage Loan Fund, South System:	
On account of the Charles River Valley Sewer	\$800,046 27
On account of the Neponset Valley Sewer	911,531 46
On account of the High-level Sewer and extensions, including Wellesley extension	8,292,881 25
	<u>10,004,458 98</u>
Balance, South Metropolitan System, December 1, 1925	\$23,052 63

(2) TOTAL SEWERAGE DEBT, NOVEMBER 30, 1925

North Metropolitan System

Bonds issued by the Treasurer of the Commonwealth:	
Sinking fund bonds	\$6,563,000 00
Serial bonds	1,725,500 00
	<u>\$8,288,500 00</u>
Total bond issue to November 30, 1925	\$8,288,500 00
Serial bonds paid prior to December 1, 1924	\$265,500 00
Serial bonds paid in 1925	93,500 00
	<u>359,000 00</u>
Total bond issue outstanding November 30, 1925	\$7,929,500 00
Gross sewerage debt	\$7,929,500 00
Sinking fund, November 30, 1925	4,822,233 54
	<u>\$3,107,266 46</u>
Net sewerage debt November 30, 1925	\$3,107,266 46
A net increase for the year of \$217,799.55	

South Metropolitan System

Bonds issued by the Treasurer of the Commonwealth:	
Sinking fund bonds	\$8,877,912 00
Serial bonds	1,125,000 00
	<u>\$10,002,912 00</u>
Total bond issue to November 30, 1925	\$10,002,912 00
Serial bonds paid prior to December 1, 1924	\$211,000 00
Serial bonds paid in 1925	32,000 00
	<u>243,000 00</u>
Total bond issue outstanding November 30, 1925	\$9,759,912 00
Gross sewerage debt	\$9,759,912 00
Sinking fund November 30, 1925	3,129,165 16
	<u>\$6,630,746 84</u>
Net sewerage debt November 30, 1925	\$6,630,746 84
A net decrease for the year of \$291,164.48	



BER 30, 1925

YEAR	LOANS		BONDS ISSUED (SINKING FUND)		BONDS ISSUED (SERIAL BONDS)		SINKING FUND
	North System	South System	North System	South System	North System	South System	North and South Systems
1889 .	4,200,000	\$800,000	—	—	—	—	—
1890 .	—	—	\$2,200,000	\$800,000	—	—	—
1891 .	—	—	368,000	—	—	—	—
1892 .	—	—	1,053,000	—	—	—	—
1893 .	—	—	579,000	—	—	—	—
1894 .	500,000	—	500,000	—	—	—	—
1895 .	300,000	500,000	300,000	300,000	—	—	—
1896 .	30,000	—	30,000	200,000	—	—	—
1897 .	85,000	300,000	80,000	300,000	—	—	—
1898 .	215,000	35,000	220,000	35,000	—	—	—
1899 .	—	4,625,000	—	1,025,000	—	—	\$361,416 59
1900 .	265,000	10,912 <sup>1</sup>	265,000	10,912	—	—	454,520 57
1901 .	—	40,000	—	2,040,000	—	—	545,668 26
1902 .	—	—	—	864,000	—	—	636,084 04
1903 .	500,000	1,000,000	500,000	1,736,000	—	—	754,690 41
1904 .	—	392,000	—	392,000	—	—	878,557 12
1905 .	—	—	—	—	—	—	1,008,724 95
1906 .	55,000	1,175,000	55,000	175,000	—	—	1,146,998 68
1907 .	—	—	—	300,000	—	—	1,306,850 30
1908 .	413,000	—	—	700,000	—	—	1,492,418 98
1909 .	—	—	300,000	—	—	—	1,673,784 40
1910 .	56,000	—	113,000	—	—	—	1,931,741 89
1911 .	6,000	—	—	—	—	—	2,184,674 98
1912 .	378,000	—	—	—	\$62,000	—	2,458,541 20
1913 .	—	—	—	—	378,000	—	2,749,337 90
1914 .	130,500	350,000	—	—	—	—	3,011,512 44
1915 .	70,000	5,000	—	—	130,500	—	3,290,979 46
1916 .	285,000	40,000	—	—	70,000	\$355,000	3,604,657 27
1917 .	—	325,000	—	—	285,000	40,000	3,925,792 75
1918 .	—	—	—	—	—	325,000	4,270,205 50
1919 .	—	225,000	—	—	—	—	4,695,573 07
1920 .	—	100,000	—	—	—	225,000	5,168,524 03
1921 .	—	—	—	—	—	—	5,698,228 38
1922 .	150,000	80,000	—	—	—	100,000	6,217,099 57
1923 .	—	—	—	—	150,000	80,000	6,752,183 63
1924 .	650,000	—	—	—	—	—	7,353,533 77
1925 .	—	—	—	—	650,000	—	7,951,398 70
	\$8,288,500	\$10,002,912	\$6,563,000	\$8,877,912	1,725,500	\$1,125,000	—

<sup>1</sup> The sum of \$10,912 was appropriated to reimburse the town of Watertown for the expense of constructing the Watertown siphon.

#### (4) SEWER ASSESSMENTS, 1925

The following sewer assessments were made by the Treasurer of the Commonwealth upon the various municipalities:

	<i>North Metropolitan Sewerage System</i>	
Sinking fund requirements . . . . .	\$175,061	85
Serial bonds . . . . .	76,795	85
Interest . . . . .	243,404	42
Maintenance:		
Appropriated by Legislature . . . . .	\$340,200	00
Less balance on hand . . . . .	10,366	28
	—————	
Total North Metropolitan sewerage assessment . . . . .	\$825,095	84
	<i>South Metropolitan Sewerage System</i>	
Sinking fund requirements . . . . .	\$154,625	56
Serial bonds . . . . .	32,000	00
Interest . . . . .	338,470	09
Maintenance:		
Appropriated by Legislature . . . . .	\$213,100	00
Less balance on hand . . . . .	14,310	80
	—————	
Total South Metropolitan sewerage assessment . . . . .	\$723,884	85

(5) EXPENDITURES FOR THE DIFFERENT WORKS

The following is a summary of the expenditures made in the various operations for the different works: —

CONSTRUCTION AND ACQUISITION OF WORKS	For the Year ending November 30, 1925
NORTH METROPOLITAN SYSTEM	
North System, enlargement:	
New Mystic Sewer in Woburn and Winchester (Chapter 529, Acts of 1922):	
Section 71 . . . . .	\$4,145 97
Section 72 . . . . .	3,089 17
Real estate:	
Settlements . . . . .	1,200 00
Legal, conveyancing and expert . . . . .	328 16
Real estate (sewer in Reading and Wakefield):	
Settlements . . . . .	250 00
Legal, conveyancing and expert . . . . .	43 99
	\$9,057 29
Mill Brook Valley Sewer in Medford and Arlington (Chapter 116, Acts of 1924):	
Section 77 . . . . .	\$87,037 42
Section 78 . . . . .	72,294 26
Section 79 . . . . .	4,467 13
Section 80 . . . . .	4,913 76
Real estate:	
Settlements . . . . .	\$300 00
Legal . . . . .	25 50
	169,038 07
Amount charged from beginning of work to December 1, 1924 . . . . .	178,095 36
	7,786,023 03
Total for North Metropolitan System to December 1, 1925 . . . . .	\$7,964,118 39

MAINTENANCE AND OPERATION	For the Year ending November 30, 1925
North Metropolitan System . . . . .	\$315,920 53
South Metropolitan System . . . . .	188,651 13
Total for maintenance, both systems. . . . .	\$504,571 66

(6) DETAILED FINANCIAL STATEMENT

The Commissioner herewith presents, in accordance with the Metropolitan Sewerage Acts, an abstract of the expenditures and disbursements, receipts, etc., for the year ending November 30, 1925.

(a) Expenditures and Disbursements

GENERAL CHARACTER OF EXPENDITURES	For the Year ending November 30, 1925
CONSTRUCTION OF WORKS AND ACQUISITION BY PURCHASE OR TAKING <i>North System Enlargement</i>	
Engineering:	
Supplies and miscellaneous expenses . . . . .	\$1,022 98
Construction:	
Advertising . . . . .	86 15
Labor and teaming . . . . .	80 04
Supplies and miscellaneous expenses . . . . .	11,158 69
Contracts . . . . .	163,599 85
Real estate:	
Legal, conveyancing and expert . . . . .	397 65
Settlements . . . . .	1,750 00
Total for North Metropolitan System . . . . .	\$178,095 36



MAINTENANCE AND OPERATION OF WORKS		
North Metropolitan System		
Administration:		
Commissioners . . . . .	\$1,583 35	
Secretary and assistants . . . . .	2,771 81	
Rent, lighting and care of building . . . . .	627 35	
Supplies and miscellaneous expenses . . . . .	483 64	
		\$5,466 15
General Supervision:		
Chief engineer and assistants . . . . .	\$7,561 67	
Rent, lighting and care of building . . . . .	1,884 37	
Supplies and miscellaneous expenses . . . . .	648 67	
		10,094 71
Deer Island Pumping Station:		
Labor . . . . .	\$34,044 71	
Supplies and miscellaneous expenses . . . . .	28,598 61	
		62,643 32
East Boston Pumping Station:		
Labor . . . . .	\$39,995 20	
Supplies and miscellaneous expenses . . . . .	22,514 86	
		62,510 06
Charlestown Pumping Station:		
Labor . . . . .	\$25,445 33	
Supplies and miscellaneous expenses . . . . .	8,681 34	
		34,126 67
Alewife Brook Pumping Station:		
Labor . . . . .	\$13,095 31	
Supplies and miscellaneous expenses . . . . .	4,949 56	
		18,044 87
Reading Pumping Station:		
Labor . . . . .	\$6,814 95	
Supplies and miscellaneous expenses . . . . .	3,683 96	
		10,498 91
Sewer lines, buildings and grounds:		
Engineering assistants . . . . .	\$3,000 00	
Labor . . . . .	66,135 86	
Supplies and miscellaneous expenses . . . . .	23,947 92	
		93,083 78
Payments under industrial accident law and special benefit appropriations		2,549 55
Mill Brook Valley Sewer Investigation . . . . .		16,954 40
		\$315,972 42
Credit amount received for coal penalties . . . . .		51 89
Total for North Metropolitan System . . . . .		\$315,920 53
South Metropolitan System		
Administration:		
Commissioners . . . . .	\$916 65	
Secretary and assistants . . . . .	2,582 00	
Rent, lighting and care of building . . . . .	493 95	
Supplies and miscellaneous expenses . . . . .	332 58	
		4,325 18
General Supervision:		
Chief engineer and assistants . . . . .	\$5,008 33	
Rent, lighting and care of building . . . . .	1,481 87	
Supplies and miscellaneous expenses . . . . .	234 65	
		6,724 85
Ward Street Pumping Station:		
Labor . . . . .	\$44,093 11	
Supplies and miscellaneous expenses . . . . .	31,226 81	
		75,319 92
Quincy Pumping Station:		
Labor . . . . .	\$13,668 37	
Supplies and miscellaneous expenses . . . . .	2,942 45	
		16,610 82
Nut Island Screen-house:		
Labor . . . . .	\$13,952 77	
Supplies and miscellaneous expenses . . . . .	4,676 56	
		18,629 33
Sewer lines, buildings and grounds:		
Engineering assistants . . . . .	\$6,510 00	
Labor . . . . .	41,748 58	
Supplies and miscellaneous expenses . . . . .	7,908 70	
		56,167 28
City of Boston for pumping . . . . .		10,300 00
Payments under industrial accident law and special benefit appropriations		663 90
		\$188,741 28
Credit amount received for coal penalties . . . . .		90 15
Total for South Metropolitan System . . . . .		\$188,651 13







## APPENDIX No. 1

## CONTRACTS MADE AND PENDING DURING THE

	Number of Contract	WORK	Number of Bids	Lowest
1	70	Building concrete dam at Black's Creek in Furnace Brook Parkway.	7	\$11,500 00
2	73	Surfacing Revere Beach Reservation Drive from Eliot Circle to Revere Street, Revere.	7	63,125 00
3	74	Building reinforced concrete bridge and approaches over the Charles River at Arsenal Street, Boston and Watertown.	4	163,060 00
4	76	Building reinforced concrete bridge and approaches over the Charles River at Cambridge Street, Boston and River Street, Cambridge.	7	250,749 00
5	77	Alteration of stable into a police station at Speedway Headquarters, Brighton.		13,970 00
6	78	Building reinforced concrete culvert at Patten's Cove, Boston (Dorchester District).	10	40,225 00
7	79	Surfacing Memorial Drive, Cambridge Parkway, between Massachusetts Avenue and Brookline Street, Cambridge.	8	17,900 00
8	80	Surfacing Furnace Brook Parkway, Adams Street to Newport Avenue, Quincy, and Blue Hills Parkway, easterly roadway, north of Blue Hill Terrace, Milton.	8	26,855 00
9	81	Surfacing Revere Beach Parkway from Winthrop Avenue, Revere, about 1,000 feet easterly.	4	4,895 00
10	82	Surfacing Middlesex Fells Parkway, Wellington Bridge to Riverside Avenue, westerly roadway, and Middlesex Avenue to Riverside Avenue, easterly roadway, Somerville.	9	20,140 00
11	83	Surfacing Middlesex Fells Parkway, Fulton Street to Forest Street, northerly roadway, and Boston & Maine Railroad Bridge to Salem Street, easterly roadway, Medford.	7	21,850 00
12	84	Filling in Dorchester Bay, Old Colony Parkway, Boston.	3	553,500 00
13	85	Building bridge, Old Colony Parkway, over Mt. Vernon Street, Boston.	5	117,925 00
14	86	Surfacing Furnace Brook Parkway, Fenno Street to Pilgrim Highway, Quincy.	8	48,070 00
15	87	Grading, surfacing and other work, Old Colony Parkway, approach to Neponset Bridge, Boston	6	5,654 25
16	88	Surfacing Middlesex Fells Parkway, Wellington Bridge to Mystic Avenue, westerly roadway, Salem Street to Forest Street, southerly roadway, Medford and Pond Streets, Woodland Road to Washington Street, Melrose.	6	30,940 00



APPENDIX No. 1

YEAR 1925 — PARKS DIVISION

Contractor	Date of Contract	Date of Completion of Contract	Value of Work done December 31, 1925
W. A. Norton Company.	Mar. 12, 1925	July 31, 1925	\$13,473 92
Simpson Bros. Corp.	Sept. 25, 1924	June 5, 1925	75,908 06 <sup>1</sup>
V. James Grande.	Nov. 6, 1924	Dec. 23, 1925	160,682 33
Luke S. White, Inc.	Mar. 26, 1925		231,838 75
John P. Curley.	Feb. 12, 1925	July 22, 1925	14,570 75
Bay State Dredging & Contracting Company.	Mar. 26, 1925	Aug. 26, 1925	51,449 45 <sup>2</sup>
Reynolds Bros., Inc.	April 30, 1925	July 22, 1925	34,217 62 <sup>2</sup>
A. W. Loud.	May 7, 1925	July 27, 1925	29,972 19
Rowe Contracting Co.	May 21, 1925	June 15, 1925	4,433 21
Rowe Contracting Co.	June 11, 1925	Aug. 20, 1925	31,069 43 <sup>1</sup>
James H. Fannon.	June 11, 1925	Aug. 20, 1925	20,917 24
Bay State Dredging & Contracting Co.	June 11, 1925		436,022 19
Coleman Bros.	Sept. 3, 1925		114,790 50
E. C. Sargent.	Aug. 4, 1925	Oct. 20, 1925	45,564 59
John W. O'Connell.	Sept. 10, 1925	Oct. 21, 1925	6,022 01
Coleman Bros.	Sept. 17, 1925	Nov. 17, 1925	36,520 99 <sup>2</sup>

<sup>1</sup> Additional items.  
<sup>2</sup> Additional quantities.

APPENDIX No. 2

CONTRACTS MADE AND PENDING DURING THE  
[The details of Contracts made before

1  Num- ber of Con- tract	2  WORK	3  Num- ber of Bids	AMOUNT OF BID		6  Contractor
			4  Next to Lowest	5  Lowest	
35	Building and erecting pump- ing engine for Spot Pond Pumping Station.	3	\$69,000 00 <sup>1</sup>	\$67,470 00	Worthington Pump & Machinery Corpora- tion, New York.
40 <sup>2</sup>	Furnishing automatic air valves.	2	3,125 00	2,232 50 <sup>1</sup>	Atlantic Works, East Boston.
44 <sup>2</sup>	Furnishing and laying 60-inch steel water pipes in Wal- tham, Section 10 of Weston Aqueduct Supply Mains.	4	695,620 00	563,230 00 <sup>1</sup>	C. & R. Construction Co., Boston.
47 <sup>2</sup>	Furnishing and laying 56-inch steel water pipes in Wal- tham, Belmont and Arling- ton, Section 11 of Weston Aqueduct Supply Mains.	7	580,715 00 (or for 60- inch riv- eted steel pipe \$543,755.)	512,629 00 <sup>1</sup>	T. A. Gillespie Co., New York.
48	Furnishing and laying 60-inch riveted steel water pipes in Arlington and Somerville.	5	205,775 00 <sup>1</sup>	206,921 40 (for Lock- bar steel pipe.)	C. & R. Construction Co., Boston.
49 <sup>2</sup>	Furnishing and laying 48-inch cast-iron water pipes in Somerville and Medford.	7	96,422 50 <sup>1</sup>	103,472 50	George M. Bryne, Win- chester, Mass.
50	Furnishing and laying 38-inch riveted steel water pipes in Malden, Melrose and Stone- ham.	5	141,325 00 <sup>1</sup>	153,580 00	Cenedella & Co., Mil- ford, Mass.

<sup>1</sup> Contract based upon this bid.  
<sup>2</sup> Contract completed.



APPENDIX No. 2

YEAR 1925 — WATER DIVISION  
1925 have been given in previous reports.]

7	8	9	10
Date of Contract	Date of Completion of Contract	Prices of Principal Items of Contracts	Value of Work done Dec. 31, 1925
Oct. 18, 1923	-	See annual report for 1923.	\$48,300 00
Mar. 31, 1924	Nov. 28, 1925	See previous annual report.	2,777 90
July 10, 1924	Nov. 4, 1925	See previous annual report.	631,861 51
Oct. 3, 1924	Oct. 14, 1925	See previous annual report.	541,653 57
May 26, 1925	-	For furnishing and laying 60-inch riveted steel pipe, \$25.75 per lin. ft.; for laying 16-inch and smaller cast-iron pipes for blow-offs and connections, \$5.00 per lin. ft.; for laying 6-inch cast-iron pipe for air inlets, \$2.00 per lin. ft.; for rock excavation above or below established grade, \$5.00 per cu. yd.; for earth excavation below established grade, \$4.00 per cu. yd.; additional for pipe ½-inch in thickness and additional cost of work under Alewife Brook and Parkway, lump sum \$6,000; for chambers for blow-off and by-pass valves, \$105 per chamber; for chambers for air valves, \$70.00 per chamber; for concrete masonry, \$12 per cu. yd.; for bituminous macadam resurfacing in streets, \$1.10 per sq. yd.	199,123 99
May 26, 1925	Dec. 1, 1925	For furnishing and laying 48-inch cast-iron pipe, \$27.45 per lin. ft.; for laying 48-inch cast-iron pipe furnished by the Commonwealth, \$8.00 per lin. ft.; for laying 12-inch and smaller cast-iron pipes for blow-offs and connections, \$3.00 per lin. ft.; for transporting pipes and materials furnished by the Commonwealth, at the Chestnut Hill Pipe Yard \$2.25 per ton, at the Glenwood Pipe Yard \$2.00 per ton; for rock excavation above or below established grade, \$5.00 per cu. yd.; for earth excavation below established grade, \$3.00 per cu. yd.; for chambers for 36-inch valves, \$175 per chamber; for chambers for blow-off, by-pass and air valves, \$100 per chamber; for concrete masonry, \$15 per cu. yd.	104,757 56
July 30, 1925	-	For furnishing and laying 38-inch riveted steel pipe, \$16.30 per lin. ft.; for laying 30-inch and smaller cast-iron pipes for blow-offs and connections, \$5.00 per lin. ft.; for laying 6-inch cast-iron pipes for air inlets, \$2.00 per lin. ft.; for rock excavation above or below established grade, \$7.00 per cu. yd.; for earth excavation below established grade, \$3.00 per cu. yd.; for connecting steel pipe with the gate-house at Fells Reservoir, lump sum \$200; for chambers for blow-off and by-pass valves, \$250 per chamber; for chambers for air valves, \$150 per chamber; for chamber for 30-inch valve, \$200; for concrete masonry, \$10.00 per cu. yd.; for bituminous macadam resurfacing in streets, \$1.50 per sq. yd.	103,314 65

## CONTRACTS MADE AND PENDING DURING THE

1 Num- ber of Con- tract	2  WORK	3  Num- ber of Bids	AMOUNT OF BID		6  Contractor
			4 Next to Lowest	5 Lowest	
51 <sup>2</sup>	Venturi Meters and parts.	-	-3	-3	Builders Iron Foundry, Providence, R. I.
52 <sup>2</sup>	Furnishing cast-iron water pipes and special castings.	-	-3	-3	Warren Foundry & Pipe Co., Phillipsburg, N. J.
53 <sup>2</sup>	Furnishing 4 street chambers for Venturi meter registers.	6	1,274 00	1,160 00 <sup>1</sup>	James Russell Boiler Works Co., Dorches- ter, Mass.
21-M	Sale and cutting of chestnut and miscellaneous standing timber on marginal lands of the Wachusett Reservoir.	2	5,000 00 <sup>5</sup>	9,750 00 <sup>1 4</sup>	Wilder, Walker & Davis Co., Sterling, Mass.
22-M <sup>2</sup>	Repairing roofs of water works buildings in Stoneham and Weston.	2	3,975 00	3,760 00 <sup>1</sup>	Charles V. Browne, Win- throp, Mass.
23-M	Cleaning of Mystic water mains.	-	-3	-3	National Water Main Cleaning Co., New York, N. Y.
24-M <sup>2</sup>	Repairing driveways at Chest- nut Hill.	5	6,897 00	6,072 00 <sup>1</sup>	Ezekiel C. Sargent, Quincy, Mass.
25-M	Repairing roofs of Depart- ment buildings in Somer- ville and Medford.	3	3,280 00	2,982 00 <sup>1</sup>	Everett F. Penshorn, Boston, Mass.
51-M	Sale and purchase of electric energy to be developed at Wachusett Dam in Clinton.	1	-	\$5.30 per M kilowatt hours.	New England Power Company and Edison Electric Illuminating Company of Boston.
Agree- ment	Sale and purchase of electric energy to be developed at Sudbury Dam in Southbor- ough.	-6	-6	-6	Edison Electric Illumin- ating Company of Bos- ton.

<sup>1</sup> Contract based upon this bid.<sup>2</sup> Contract completed.<sup>3</sup> Competitive bids were not received.<sup>4</sup> Highest bid.<sup>5</sup> Next to highest bid.<sup>6</sup> Sale of energy continued since January 1, 1922, at same price as formerly under modified extension of contract No. 39-M.



## YEAR 1925 — WATER DIVISION — Continued

7	8	9	10
Date of Contract	Date of Completion of Contract	Prices of Principal Items of Contracts	Value of Work done Dec. 31, 1925
May 27, 1925	Nov. 28, 1925	For 20-inch by 10-inch Venturi meter tubes with spigot ends, \$675; for spigot inlet and outlet sections, \$190 per pair; for Venturi meter tubes with spigot ends, \$285; special rust-proof Type Y register indicator recorders, \$750.	\$6,803 00
June 12, 1925	Nov. 25, 1925	For 6-inch straight pipe, Class C, \$54.90 per ton of 2,000 pounds; for special castings, \$125 per ton of 2,000 pounds.	5,030 71
July 18, 1925	Oct. 28, 1925	For each chamber, \$290.	1,160 00
Dec. 7, 1923	-	See annual report for 1923.	9,650 00
Oct. 7, 1924	June 24, 1925	See previous annual report.	4,296 00
May 27, 1925	-	Cleaning 30-inch and 24-inch cast-iron pipe, 10 cents per linear foot.	1,408 70
Oct. 2, 1925	Nov. 11, 1925	Penetrated asphalt macadam, \$1.23 per sq. yd.; liquid asphalt surfacing, 17 cents per sq. yd.	6,151 14
Nov. 14, 1925	-	Lump sum, \$2,982.	1,491 00
Jan. 13, 1917	-	See annual report for 1917.	322,898 44
Jan. 1, 1922	-	See annual report for 1922	136,609 23

CONTRACTS MADE AND PENDING DURING THE YEAR 1925 — WATER DIVISION

Concluded

SUMMARY OF CONTRACTS, 1895 to 1925, INCLUSIVE<sup>1</sup>

	Value of Work done Dec. 31, 1925
Distribution Section, 9 contracts . . . . .	\$1,596,482 89
Pumping Service, 1 contract . . . . .	48,300 00
	\$1,644,782 89
443 contracts completed from 1896 to 1924, inclusive . . . . .	18,818,806 06
	\$20,463,588 95
Deduct for work done on 11 Sudbury Reservoir contracts by the city of Boston . .	512,000 00
Total of 453 contracts . . . . .	\$19,951,588 95

<sup>1</sup> In this summary contracts for the sale of used material and contracts charged to maintenance are excluded.



APPENDIX No. 3

TABLE No. 1. — Monthly Rainfall in inches at Various Places on the Metropolitan Water Works, 1925

PLACE	January	February	March	April	May	June	July	August	September	October	November	December	Totals
Wachusett Watershed:													
Princeton . . . . .	3.84	2.37	5.40	2.80	2.65	4.21	3.85	2.76	4.25	4.17	3.70	3.79	43.79
Jefferson . . . . .	3.40	2.38	5.92	3.11	1.84	4.01	4.83	1.66	5.21	4.82	3.41	4.46	45.05
Sterling . . . . .	3.70	2.22	6.03	3.10	1.81	4.06	3.33	1.40	3.74	4.25	3.26	4.58	41.48
Boylston . . . . .	3.79	2.10	5.87	3.23	2.28	3.60	3.78	2.35	3.83	4.25	3.34	4.75	43.17
Sudbury Watershed:													
Sudbury Dam . . . . .	4.39	2.24	5.70	3.08	2.30	4.66	4.30	1.21	2.82	4.43	3.00	5.96	44.09
Framingham . . . . .	4.64	2.10	5.48	3.01	2.52	4.91	4.92	1.55	3.28	4.31	3.16	5.89	45.77
Ashland Dam . . . . .	4.43	2.01	5.50	2.63	2.27	4.16	6.36	1.03	3.49	4.32	3.22	5.44	44.86
Cordaville . . . . .	4.41	2.43	6.09	3.07	2.72	5.29	5.84	1.21	3.15	4.58	3.28	5.74	47.81
Lake Cochituate . . . . .	4.68	2.15	5.59	2.84	2.35	4.43	4.37	1.24	3.05	4.52	3.33	5.44	43.99
Chestnut Hill Reservoir . . . . .	4.95	1.98	6.06	2.77	2.39	4.41	4.51	0.91	3.35	4.09	3.55	6.03	45.00
Spot Pond . . . . .	5.12	2.26	6.62	2.94	2.54	4.44	4.03	1.09	2.67	4.56	3.84	6.26	46.37
Average of all . . . . .	4.31	2.20	5.84	2.96	2.33	4.38	4.56	1.49	3.53	4.39	3.37	5.31	44.67
Average, Wachusett Watershed . . . . .	3.68	2.27	5.81	3.06	2.14	3.97	3.95	2.04	4.26	4.37	3.43	4.39	43.37
Average, Sudbury Watershed . . . . .	4.47	2.20	5.69	2.95	2.45	4.75	5.35	1.25	3.19	4.41	3.17	5.76	45.64

TABLE No. 2. — *Rainfall in Inches at Chestnut Hill Reservoir, 1925*

DATE	Amount	Duration	DATE	Amount	Duration
Jan. 2 .	.27 <sup>1</sup>	5.30 P.M. to	June 1 .	.78	6.05 P.M. to 7.15 P.M.
Jan. 3 .		5.30 A.M.	June 9 .	.02	11.30 P.M. to
Jan. 11 .	1.01 <sup>2</sup>	11.40 P.M. to	June 10 .		5.45 A.M.
Jan. 12 .		6.30 A.M.	June 14 .	.20	6.30 P.M. to 7.15 P.M.
Jan. 16 .	.75 <sup>2</sup>	2.00 P.M. to	June 15 .	.45	8.20 P.M. to 10.30 P.M.
Jan. 17 .		2.45 A.M.	June 16 .	.08	5.40 A.M. to 10.00 A.M.
Jan. 18 .	.05 <sup>1</sup>	6.30 A.M. to 2.15 P.M.	June 18 .	.18	2.25 A.M. to 5.15 A.M.
Jan. 20 .	1.21 <sup>1</sup>	6.10 A.M. to 8.00 P.M.	June 20 .	.41	8.00 P.M. to 9.00 P.M.
Jan. 27 .	.57 <sup>1</sup>	5.20 A.M. to 7.00 P.M.	June 22 .	.26	10.40 P.M. to
Jan. 29 .	1.09 <sup>2</sup>	5.30 P.M. to	June 23 .		6.45 A.M.
Jan. 30 .		3.00 A.M.	June 25 .	.60	8.00 A.M. to 11.45 P.M.
Total .	4.95		June 28 .	.16	6.10 A.M. to 7.30 P.M.
Feb. 3 .	.06 <sup>1</sup>	9.00 A.M. to 7.15 P.M.	June 29 .	.40	2.30 A.M. to 4.40 A.M.
Feb. 10 .	.08	6.10 A.M. to 11.00 A.M.	June 29 .	.87	6.30 P.M. to
Feb. 11 .	1.17	2.45 P.M. to	June 30 .		4.30 A.M.
Feb. 12 .		4.30 P.M.	Total .	4.41	
Feb. 15 .	.45	1.30 P.M. to 8.00 P.M.	July 4 .	.22	5.10 P.M. to 7.00 P.M.
Feb. 23 .	.05	6.00 A.M. to 11.30 A.M.	July 5 .	.03	2.20 A.M. to 9.00 A.M.
Feb. 23 .	.03	7.15 P.M. to 9.30 P.M.	July 7 .	.75	5.40 P.M. to
Feb. 25 .	.14	7.30 P.M. to	July 8 .		7.00 A.M.
Feb. 26 .		2.30 P.M.	July 10 .	.05	6.45 A.M. to 8.00 A.M.
Total .	1.98		July 16 .	.05	3.35 A.M. to 6.20 A.M.
March 1 .	.49	2.30 P.M. to 11.30 P.M.	July 17 .	.10	10.25 P.M. to
March 5 .	1.62	2.30 P.M. to	July 18 .		2.00 A.M.
March 6 .		10.30 A.M.	July 22 .	.52	5.00 P.M. to 10.45 P.M.
March 11 .	.17	11.20 P.M. to	July 25 .	.45	11.50 P.M. to
March 12 .	.32	3.30 A.M.	July 26 .		11.00 A.M.
March 13 .		10.15 P.M. to	July 27 .	.22	1.00 A.M. to 2.00 A.M.
March 14 .	.40	3.10 P.M.	July 27 .	1.27	6.45 A.M. to 11.30 A.M.
March 17 .		12.40 P.M. to 8.30 P.M.	July 28 .	.27	5.20 P.M. to 6.00 P.M.
March 19 .	1.20	5.00 A.M. to 1.00 P.M.	July 31 .	.58	8.00 P.M. to
March 25 .	.08	11.30 A.M. to 1.00 P.M.	Aug. 1 .		7.30 A.M.
March 27 .	.02	8.50 P.M. to	Total .	4.51	
March 28 .		4.30 A.M.	August 5 .	.58	1.40 P.M. to
March 28 .	1.76	11.10 A.M. to	August 6 .		8.30 A.M.
March 30 .		9.10 P.M.	August 9 .	.11	9.30 A.M. to
Total .	6.06		August 10 .	.19	7.00 A.M.
April 10 .	.38	3.30 P.M. to	August 13 .		11.00 A.M. to
April 11 .		3.00 A.M.	August 14 .	.03	12 Noon
April 12 .	.03	1.00 A.M. to 4.00 A.M.	August 21 .		11.40 A.M. to 7.00 P.M.
April 13 .	.37	2.00 A.M. to 8.00 A.M.	Total .	.91	
April 15 .	.50	2.10 A.M. to 10.15 A.M.	Sept. 3 .	1.14	6.15 A.M. to
April 15 .	.16	4.00 P.M. to 4.40 P.M.	Sept. 4 .		11.45 A.M.
April 19 .	1.20	10.45 A.M. to	Sept. 7 .	.91	1.30 A.M. to
April 20 .		6.15 A.M.	Sept. 8 .		5.00 A.M.
April 25 .	.04	6.10 P.M. to	Sept. 14 .	.48	8.15 A.M. to 10.00 A.M.
April 26 .		5.45 A.M.	Sept. 15 .	.72	9.20 P.M. to
April 30 .	.09	1.30 A.M. to	Sept. 16 .		5.00 P.M.
May 1 .		5.20 A.M.	Sept. 21 .	.05	4.00 A.M. to 6.00 A.M.
Total .	2.77		Sept. 27 .	.05	11.45 P.M. to
May 2 .	.03	3.00 P.M. to 3.30 P.M.	Sept. 28 .		1.00 A.M.
May 4 .	.07	12.30 P.M. to	Total .	3.35	
May 5 .		4.00 A.M.	Oct. 3 .	.85	1.15 A.M. to 6.00 P.M.
May 11 .	.40	2.30 A.M. to 8.45 P.M.	Oct. 5 .	.43	2.05 A.M. to 4.10 P.M.
May 14 .	.44	11.30 P.M. to	Oct. 9 .	.92 <sup>2</sup>	10.35 A.M. to
May 15 .		2.00 P.M.	Oct. 10 .		12.10 P.M.
May 17 .	.09	5.50 A.M. to 7.30 A.M.	Oct. 14 .	.51	10.00 P.M. to
May 23 .	.06	1.45 A.M. to 5.15 A.M.	Oct. 15 .	.08	5.30 A.M.
May 23 .	.61	10.45 A.M. to	Oct. 16 .		10.00 P.M. to
May 25 .		4.00 A.M.	Oct. 17 .	.09	3.15 A.M.
May 25 .	.11	8.15 A.M. to 6.15 P.M.	Oct. 19 .		7.30 P.M. to 8.00 P.M.
May 29 .	.30	4.30 P.M. to	Oct. 23 .	.05	7.55 A.M. to 10.00 A.M.
May 30 .		5.15 A.M.	Oct. 24 .	.97	8.45 P.M. to
May 30 .	.15	6.30 P.M. to 10.45 P.M.	Oct. 25 .		4.00 P.M.
May 31 .	.13	9.00 P.M. to	Oct. 28 .	.19	5.00 P.M. to
June 1 .		4.00 A.M.	Oct. 29 .		12.30 A.M.
Total .	2.39		Total .	4.09	

Total for year, 45.00 inches.

<sup>1</sup> Snow.

<sup>2</sup> Rain and Snow.



TABLE NO. 2 — *Rainfall in inches at Chestnut Hill Reservoir, 1925* — Continued

DATE	Amount	Duration	DATE	Amount	Duration
Nov. 6 .	.18	1.45 A.M. to 9.00 A.M.	Dec. 1 .	.35 <sup>2</sup>	7.45 A.M. to 11.00 P.M.
Nov. 8 .	.24	3.30 P.M. to 7.35 P.M.	Dec. 3 .	4.20	3.00 A.M. to
Nov. 12 .	1.31	8.45 P.M. to	Dec. 6 .		6.30 A.M.
Nov. 13 .		10.00 A.M.	Dec. 8 .	.02	9.30 P.M. to 11.00 P.M.
Nov. 16 .	1.09	3.15 A.M. to 7.30 A.M.	Dec. 12 .	.03	1.00 A.M. to 7.00 A.M.
Nov. 23 .	.34	3.20 A.M. to 9.30 A.M.	Dec. 20 .	.72	2.20 P.M. to
Nov. 27 .	.39 <sup>2</sup>	6.45 A.M. to	Dec. 21 .		7.00 A.M.
Nov. 28 .		1.15 A.M.	Dec. 21 .	.39	9.45 P.M. to
Total .	3.55		Dec. 22 .	.15 <sup>2</sup>	2.30 P.M.
			Dec. 22 .		9.30 P.M. to
			Dec. 23 .		2.45 A.M.
			Dec. 25 .	.17 <sup>1</sup>	8.30 A.M. to 8.30 P.M.
			Total .	6.03	

Total for year 45.00 inches

<sup>1</sup> Snow

<sup>2</sup> Rain and Snow.

TABLE NO. 3. — *Wachusett System. — Statistics of Flow of Water, Storage and Rainfall in 1925*

[Watershed above dam = 108.84 square miles]

MONTH	GALLONS PER DAY										Rainfall Collected (Inches)	Percent- age of Rainfall Collected
	Taken by Town of Clinton	Taken by City of Worcester	Received from City of Worcester Watershed	Discharged into Wachusett Aqueduct <sup>1</sup>	Wasted into River below Dam	Seepage through the North Dike <sup>2</sup>	STORAGE <sup>3</sup>		Total Yield of Water- shed	Yield per Square Mile		
							Gain	Loss				
January . . . . .	603,000	4,832,000	—	134,110,000	1,716,000	736,000	—	107,658,000	34,339,000	316,000	3.68	15.3
February . . . . .	214,000	3,643,000	—	69,300,000	1,746,000	736,000	94,850,000	—	170,489,000	1,566,000	2.27	111.3
March . . . . .	—	—	—	62,403,000	1,752,000	781,000	179,403,000	—	244,339,000	2,245,000	5.81	69.0
April . . . . .	13,000	—	—	74,170,000	1,712,000	838,000	79,991,000	—	156,724,000	1,440,000	3.06	81.1
May . . . . .	325,000	—	—	120,835,000	1,748,000	848,000	—	46,758,000	77,000,000	708,000	2.14	58.8
June . . . . .	620,000	—	—	133,190,000	1,707,000	823,000	—	93,227,000	43,113,000	396,000	3.97	17.2
July . . . . .	706,000	—	—	131,012,000	1,723,000	784,000	—	111,422,000	25,448,000	234,000	3.95	10.6
August . . . . .	761,000	2,645,000	—	110,858,000	1,687,000	736,000	—	98,071,000	21,155,000	194,000	2.04	17.0
September . . . . .	796,000	5,184,000	—	129,723,000	1,714,000	702,000	—	101,326,000	37,564,000	345,000	4.26	14.0
October . . . . .	732,000	5,955,000	—	123,023,000	1,713,000	677,000	—	83,948,000	47,568,000	437,000	4.37	17.8
November . . . . .	550,000	1,777,000	—	98,843,000	1,680,000	654,000	—	16,597,000	86,907,000	799,000	3.43	40.2
December . . . . .	—	1,584,000	—	71,919,000	1,723,000	665,000	100,874,000	—	176,765,000	1,624,000	4.39	65.9
Total . . . . .	445,000	2,582,000	—	105,204,000	1,718,000	748,000	—	17,757,000	92,940,000	854,000	43.37	—
Average for year . . . . .			—				—				—	41.3

<sup>1</sup> Including 192,000 gallons per day drawn from aqueduct for the supply of the Westborough State Hospital.

<sup>2</sup> Estimated.

<sup>3</sup> Aggregate storage in Wachusett Reservoir and in ponds and mill reservoirs.



TABLE No. 4. — *Sudbury System — Statistics of Flow of Water, Storage and Rainfall in 1925*

[Watershed = 75.2 square miles]

MONTH	GALLONS PER DAY										Rain-fall Col-lected (Inches)	Rain-fall Col-lected (Inches)	Percent-age of Rain-fall Col-lected
	Water received from Wachusett Reservoir <sup>1</sup>	Water discharged through Sudbury Aqueduct	Water discharged through Weston Aqueduct	Water used by Framingham Water Works	Water di-verted from Watershed by Sewers, etc.	Water wasted into River below Lowest Dam	STORAGE		Total Yield of Water-shed	Yield per Square Mile			
							Gain	Loss					
January	133,922,000	65,981,000	67,039,000	1,503,000	703,000	6,603,000	5,945,000	—	13,852,000	184,000	4.47	0.328	7.4
February	69,118,000	56,407,000	66,093,000	1,486,000	1,439,000	95,379,000	—	12,400,000	139,286,000	1,852,000	2.20	2.985	136.0
March	62,229,000	49,329,000	65,671,000	1,394,000	1,458,000	102,048,000	6,519,000	—	164,190,000	2,183,000	5.69	3.895	68.4
April	73,996,000	47,032,000	65,985,000	1,242,000	1,822,000	74,183,000	—	4,172,000	112,096,000	1,491,000	2.95	2.570	87.2
May	120,658,000	53,929,000	62,871,000	1,283,000	929,000	32,113,000	13,222,000	—	43,690,000	581,000	2.45	1.036	42.2
June	132,986,000	62,590,000	67,663,000	1,386,000	850,000	14,790,000	2,010,000	—	16,303,000	217,000	4.75	0.374	7.9
July	130,803,000	56,471,000	66,664,000	1,284,000	755,000	17,467,000	6,168,000	—	18,006,000	239,000	5.35	0.427	8.0
August	110,664,000	50,316,000	66,077,000	1,419,000	526,000	11,184,000	—	14,545,000	4,313,000	57,000	1.25	0.102	8.2
September	129,517,000	58,532,000	67,942,000	1,388,000	566,000	4,397,000	—	343,000	2,965,000	39,000	3.19	0.068	2.1
October	122,813,000	57,655,000	68,039,000	1,339,000	741,000	26,332,000	—	4,916,000	26,377,000	351,000	4.41	0.626	14.2
November	98,650,000	47,437,000 <sup>2</sup>	71,030,000	1,340,000	750,000	39,334,000	—	17,613,000	43,628,000	580,000	3.17	1.001	31.6
December	71,725,000	51,148,000	72,919,000	1,510,000	1,703,000	84,358,000	464,000	—	140,377,000	1,867,000	5.76	3.330	57.8
Total	—	—	—	—	—	—	—	—	—	—	45.64	16.742	—
Av. for year	105,102,000	54,732,000	67,334,000	1,381,000	1,017,000	42,006,000	—	1,512,000	59,946,000	797,000	—	—	36.7

<sup>1</sup> Not including 192,000 gallons per day drawn from the Wachusett Aqueduct for the supply of the Westborough State Hospital, which were not discharged into Sudbury Reservoir.  
<sup>2</sup> Includes 137,000 gallons per day to Lake Cochituate.

TABLE No. 5. — *Cochituate System — Statistics of Flow of Water, Storage and Rainfall in 1925*

[Watershed of lake = 17.58 square miles<sup>1</sup>]

MONTH	GALLONS PER DAY						Rainfall (Inches)	Rainfall Collected (Inches)	Percent- age of Rainfall Collected	
	Water discharged through Cochituate Aqueduct	Water di- verted from Watershed by Sewers, etc.	Water wasted at Outlet of Lake	STORAGE		Total Yield of Watershed				Yield per Square Mile
				Gain	Loss					
January	—	174,000	4,513,000	532,000	—	5,219,000	297,000	4.68	0.53	11.3
February	—	879,000	36,075,000	—	1,175,000	35,779,000	2,035,000	2.15	3.28	152.5
March	—	1,487,000	27,729,000	3,574,000	—	32,790,000	1,865,000	5.59	3.33	59.5
April	—	1,499,000	20,428,000	—	237,000	21,690,000	1,234,000	2.84	2.13	74.9
May	—	755,000	6,416,000	2,064,000	—	9,235,000	525,000	2.35	0.94	39.9
June	—	607,000	—	3,806,000	—	4,413,000	251,000	4.43	0.43	9.8
July	6,742,000	797,000	4,990,000	—	7,423,000	5,106,000	291,000	4.37	0.52	11.9
August	11,226,000	448,000	—	—	8,290,000	3,384,000	192,000	1.24	0.34	27.7
September	4,867,000	359,000	—	—	2,610,000	2,616,000	149,000	3.05	0.26	3.4
October	532,000	439,000	—	5,372,000	—	6,345,000	361,000	4.52	0.64	14.3
November	—	533,000	4,000,000	4,057,000	—	8,453,000	481,000	3.33	0.83	24.9
December	—	1,568,000	33,032,000	—	5,200,000	29,400,000	1,672,000	5.44	2.98	54.8
Total	—	—	—	—	—	—	—	43.99	16.21	36.8
Average for year	1,972,000 <sup>2</sup>	795,000	11,285,000	—	474,000	13,567,000	772,000	—	—	—

<sup>1</sup> Not including the watersheds of Dudley and Dug ponds.

<sup>2</sup> Includes 26,000 gallons wasted in flushing the aqueduct.



TABLE NO. 6. — Sources from which and Periods during which Water has been drawn for the Supply of the Metropolitan Water District

From Wachusett Reservoir into the Wachusett Aqueduct

MONTH	Number of Days during which Water was Flowing	ACTUAL TIME		Million Gallons Drawn
		Hours	Minutes	
January . . . . .	26	315	0	4,157.4
February . . . . .	15	152	0	1,940.4
March . . . . .	17	196	0	1,934.5
April . . . . .	16	203	15	2,222.0
May . . . . .	25	253	0	3,745.9
June . . . . .	26	272	40	3,995.7
July . . . . .	26	278	0	4,061.4
August . . . . .	26	258	30	3,436.6
September . . . . .	24	274	15	3,897.1
October . . . . .	26	258	30	3,813.7
November . . . . .	24	254	45	2,965.3
December . . . . .	19	198	0	2,229.5
Totals . . . . .	270	121.41 days		38,399.5

From Sudbury Reservoir through the Weston Aqueduct to Weston Reservoir

MONTH	Number of Days during which Water was Flowing	ACTUAL TIME		Million Gallons Drawn
		Hours	Minutes	
January . . . . .	26	445	30	2,078.2
February . . . . .	24	393	43	1,850.6
March . . . . .	26	445	30	2,035.8
April . . . . .	26	429	30	1,976.8
May . . . . .	26	429	07	1,949.0
June . . . . .	26	443	55	2,029.9
July . . . . .	27	430	41	2,066.6
August . . . . .	26	445	30	2,048.4
September . . . . .	26	426	40	2,041.1
October . . . . .	27	450	13	2,109.2
November . . . . .	30	458	00	2,130.9
December . . . . .	29	469	45	2,260.5
Totals . . . . .	319	219.50 days		24,577.0

From Framingham Reservoir No. 3 through the Sudbury Aqueduct to Chestnut Hill Reservoir

MONTH	Number of Days during which Water Was Flowing	Actual Time (Hours)	Million Gallons Drawn
January . . . . .	31	744	2,045.4
February . . . . .	28	672	1,579.4
March . . . . .	31	744	1,529.2
April . . . . .	30	719	1,409.0
May . . . . .	31	744	1,671.8
June . . . . .	30	720	1,877.7
July . . . . .	31	736	1,750.6
August . . . . .	31	744	1,559.8
September . . . . .	30	721	1,758.4
October . . . . .	31	744	1,787.3
November . . . . .	30	720	1,419.0
December . . . . .	31	744	1,585.6
Totals . . . . .	365	8,752	19,973.2

TABLE No. 7. — *Average Daily Quantity of Water flowing through Aqueducts in 1925 by Months<sup>1</sup>*

MONTH	Wachusett Aqueduct into Sudbury Reservoir (Gallons)	Weston Aqueduct into Metropolitan District (Gallons)	Sudbury Aqueduct into Chestnut Hill Reservoir (Gallons)	Cochituate Aqueduct into Chestnut Hill Reservoir (Gallons)
January . . . . .	133,922,000	67,039,000	65,981,000	—
February . . . . .	69,118,000	66,093,000	56,407,000	—
March . . . . .	62,229,000	65,671,000	49,329,000	—
April . . . . .	73,996,000	65,985,000	47,032,000	—
May . . . . .	120,658,000	62,871,000	53,929,000	—
June . . . . .	132,986,000	67,663,000	62,590,000	—
July . . . . .	130,803,000	66,664,000	56,471,000	6,742,000
August . . . . .	110,664,000	66,077,000	50,316,000	11,226,000
September . . . . .	129,517,000	67,942,000	58,532,000	4,867,000
October . . . . .	122,813,000	68,039,000	57,655,000	229,000
November . . . . .	98,650,000	71,030,000	47,300,000	—
December . . . . .	71,725,000	72,919,000	51,148,000	—
Average . . . . .	105,102,000	67,334,000	54,721,000	1,946,000

<sup>1</sup> Not including quantities wasted while cleaning and repairing aqueducts.



TABLE No. 8. — (Meter Basis.)    *Average Daily Consumption of Water by Districts in the Cities and Towns supplied by the Metropolitan Water Works in 1925*

MONTH	SOUTHERN LOW SERVICE		NORTHERN LOW SERVICE		SOUTHERN HIGH SERVICE		NORTHERN HIGH SERVICE		SOUTHERN EXTRA HIGH SERVICE		NORTHERN EXTRA HIGH SERVICE		Total District Supplied (Gallons)	Estimated Population	Consumption per Inhabitant (Gallons)
	Boston, Excluding East Boston and Charlestown (Gallons)	Portions of Charlestown, Somerville, Chelsea, Everett, Malden, Medford, East Boston and Arlington (Gallons)	Quincy, Watertown, and Portions of Boston, Belmont and Milton (Gallons)	Revere, Winthrop, Swampscott, Nahant, Stoneham, Melrose, and Portions of Boston, Chelsea, Everett, Malden, Medford and Somerville (Gallons)	Portions of Boston and Milton (Gallons)	Lexington and Portions of Arlington and Belmont (Gallons)									
January	45,874,300	31,535,400	44,959,400	10,554,400	941,900	1,160,500	135,025,900	1,294,280	104						
February	43,650,900	30,069,600	43,745,800	10,285,300	995,700	1,114,300	129,861,600	1,295,730	100						
March	41,663,100	28,278,100	40,864,900	9,890,300	919,400	1,050,600	122,666,400	1,297,190	95						
April	39,675,300	27,921,000	42,376,800	10,154,300	937,800	1,143,800	122,209,000	1,298,650	94						
May	38,516,400	27,695,300	42,246,700	10,431,400	1,053,500	1,382,600	121,325,900	1,300,110	93						
June	42,056,700	30,006,300	46,326,300	12,027,800	1,166,000	1,675,800	133,258,900	1,301,560	102						
July	41,331,000	29,942,700	45,588,500	12,026,000	1,035,700	1,413,000	131,336,900	1,303,020	101						
August	40,609,700	29,584,100	45,913,500	12,231,000	1,040,900	1,461,800	130,841,000	1,304,470	100						
September	41,245,300	29,579,900	46,042,800	11,794,900	1,031,400	1,435,000	131,129,300	1,305,930	100						
October	41,036,900	28,329,800	45,221,300	10,703,500	987,500	1,240,500	127,519,500	1,307,390	98						
November	41,177,600	27,235,400	43,768,700	10,819,400	1,041,600	1,135,800	125,178,500	1,308,840	96						
December	42,777,800	28,902,800	44,328,000	11,892,600	980,500	1,056,800	129,938,500	1,310,300	99						
For the year	41,624,500	29,086,600	44,282,400	11,072,500	1,010,800	1,273,000	128,349,800	1,303,020	99						

TABLE No. 9. — (Meter Basis.)    Average Daily Consumption of Water in Cities and Towns supplied by the Metropolitan Water Works in 1925

City or town	ARLINGTON		BELMONT		BOSTON		CHELSEA		EVERETT		LEXINGTON		MALDEN	
	Population		GALLONS		GALLONS		GALLONS		GALLONS		GALLONS		GALLONS	
	Per Day	Per Capita	Per Day	Per Capita	Per Day	Per Capita	Per Day	Per Capita	Per Day	Per Capita	Per Day	Per Capita	Per Day	Per Capita
January	1,512,100	62	904,200	61	96,192,600	124	4,368,700	93	5,330,800	127	453,200	59	3,264,700	63
February	1,427,300	58	908,100	61	91,991,000	118	4,093,000	87	5,608,600	134	464,800	61	3,066,000	59
March	1,341,400	55	909,000	61	86,773,200	112	3,616,900	77	4,987,400	119	439,200	57	3,010,300	58
April	1,431,100	58	959,100	64	86,108,900	111	3,464,300	74	5,366,500	128	433,800	56	2,963,700	57
May	1,674,400	68	974,700	64	84,528,900	109	3,418,500	73	5,273,400	126	470,100	61	2,730,100	53
June	1,944,400	78	1,239,100	82	91,845,300	118	3,592,300	76	5,549,000	132	567,300	73	2,900,900	56
July	1,755,100	70	1,187,600	78	90,278,500	116	3,609,400	76	5,478,800	130	554,400	71	2,862,500	55
August	1,759,800	70	1,264,400	82	89,653,500	115	3,615,300	76	5,312,700	126	558,100	71	2,980,200	57
September	1,727,100	69	1,225,000	80	90,523,600	116	3,603,500	76	5,365,200	127	538,500	69	3,182,500	61
October	1,593,300	63	1,051,300	68	89,626,600	115	3,506,100	74	4,990,800	118	486,200	62	2,951,200	57
November	1,412,900	56	984,600	63	87,886,800	112	3,488,600	73	4,975,200	118	492,100	63	2,825,500	56
December	1,330,100	52	957,400	61	91,424,800	117	3,573,600	75	5,169,700	122	456,500	58	2,892,200	56
For the year	1,576,400	63	1,047,600	69	89,724,700	115	3,660,400	77	5,281,000	126	492,900	63	2,968,400	57



TABLE No. 9. — *Average Daily Consumption of Water in Cities and Towns, etc. — Continued*

City or town	MEDFORD		MELROSE		MILTON		NAHANT		QUINCY		REVERE	
	47,630		20,160		12,860		1,630		60,060		33,260	
	GALLONS		GALLONS		GALLONS		GALLONS		GALLONS		GALLONS	
MONTH	Per Day		Per Capita		Per Day		Per Capita		Per Day		Per Capita	
	Per Capita		Per Capita		Per Capita		Per Capita		Per Capita		Per Capita	
January	2,406,600	51	1,168,300	58	585,100	47	84,900	53	4,206,800	71	2,373,100	72
February	2,394,800	51	1,173,300	59	572,200	45	81,600	51	4,191,100	71	2,227,500	68
March	2,406,700	51	1,100,200	55	577,200	46	80,700	50	4,133,600	70	2,142,400	65
April	2,273,600	48	1,144,500	57	595,400	47	104,500	65	4,137,700	70	2,184,300	66
May	2,344,300	49	1,139,700	57	627,300	49	157,900	97	4,141,000	69	2,293,900	69
June	2,590,800	55	1,338,200	66	661,200	52	300,000	184	4,874,700	81	2,581,100	78
July	2,412,500	51	1,368,900	68	595,800	46	357,200	219	4,841,600	81	2,664,500	80
August	2,438,800	51	1,372,400	68	593,200	46	350,100	215	4,811,100	80	2,767,400	83
September	2,487,500	52	1,355,500	67	608,300	47	263,700	161	4,724,200	78	2,580,400	77
October	2,426,700	51	1,355,800	67	630,900	48	131,400	80	4,443,600	73	2,293,200	69
November	2,692,800	56	1,291,000	64	603,900	46	96,400	58	4,701,200	77	2,131,700	64
December	3,205,300	66	1,234,000	61	595,700	45	96,400	58	4,520,800	74	2,279,500	68
For the year	2,507,600	53	1,253,800	62	604,000	47	176,000	108	4,478,200	75	2,377,900	71

TABLE No. 9. — Average Daily Consumption of Water in Cities and Towns, etc. — Concluded

City or town	SOMERVILLE				STONEHAM				SWAMPSCOTT				WATERTOWN				WINTHROP				METROPOLITAN DISTRICT																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																												
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TABLE No. 10. — *Chemical Examinations of Water from the Wachusett Reservoir, Clinton.* [Parts per 100,000]

Date of Collection	APPEARANCE			ODOR		RESIDUE on EVAPO- RATION		AMMONIA			Chlorine	Hardness	
	Turbidity	Sediment	Color	Cold	Hot	Total	Loss on Ignition	Free	ALBUMINOID				
									Total	Dissolved			Suspend
Jan. 6	None.	V. slight.	.10	V. faintly vegetable.	Faintly vegetable.	3.50	1.75	.0022	.0086	.0078	.0008	.26	1.4
Jan. 20	None.	V. slight.	.03	V. faintly vegetable.	Faintly vegetable.	3.40	1.30	.0008	.0078	.0068	.0010	.23	1.4
Feb. 3	V. slight.	V. slight.	.05	V. faintly vegetable.	V. faintly vegetable.	4.30	1.85	.0012	.0080	.0058	.0022	.24	1.4
Feb. 17	V. slight.	V. slight.	.02	None.	V. faintly vegetable.	3.05	1.10	.0022	.0088	.0072	.0016	.25	1.3
Mar. 10	None.	V. slight.	.04	V. faintly vegetable.	V. faintly vegetable.	5.90	2.15	.0022	.0078	.0060	.0018	.25	1.3
Mar. 24	V. slight.	V. slight.	.04	V. faintly vegetable.	V. faintly vegetable.	3.20	1.35	.0014	.0062	.0050	.0012	.25	1.3
Apr. 8	V. slight.	V. slight.	.05	V. faintly vegetable.	Faintly vegetable.	3.50	1.50	.0014	.0106	.0074	.0032	.25	1.7
Apr. 23	V. slight.	V. slight.	.12	V. faintly vegetable.	Faintly vegetable.	3.45	1.50	.0018	.0078	.0070	.0008	.26	1.3
May 6	V. slight.	V. slight.	.11	V. faintly vegetable.	Faintly vegetable.	3.70	1.60	.0010	.0098	.0092	.0006	.24	1.1
May 20	V. slight.	V. slight.	.12	V. faintly vegetable.	Faintly vegetable.	4.20	1.80	.0018	.0094	.0076	.0018	.30	1.6
June 10	V. slight.	V. slight.	.09	V. faintly vegetable.	Faintly vegetable.	4.00	1.80	.0024	.0096	.0092	.0004	.26	1.7
June 24	V. slight.	V. slight.	.10	V. faintly vegetable.	Faintly vegetable.	3.40	1.50	.0018	.0118	.0090	.0028	.26	1.3
July 8	V. slight.	V. slight.	.06	V. faintly vegetable.	Faintly vegetable.	3.55	1.60	.0008	.0110	.0074	.0036	.22	1.1
Aug. 5	V. slight.	V. slight.	.07	V. faintly vegetable.	Faintly vegetable.	3.50	1.45	.0020	.0156	.0126	.0030	.24	1.1
Aug. 18	V. slight.	V. slight.	.10	V. faintly vegetable.	Faintly vegetable.	3.50	1.40	.0032	.0132	.0112	.0020	.26	1.6
Sept. 9	V. slight.	V. slight.	.05	Faintly vegetable.	Distinctly vegetable.	3.90	1.60	.0022	.0154	.0128	.0026	.25	1.3
Sept. 22	None	V. slight.	.05	None.	V. faintly vegetable.	5.25	2.05	.0006	.0088	.0076	.0012	.25	1.4
Oct. 6	V. slight.	V. slight.	.05	V. faintly vegetable.	Faintly vegetable.	4.30	1.65	.0022	.0120	.0096	.0024	.25	1.1
Oct. 20	V. slight.	V. slight.	.03	V. faintly vegetable and unpl.	Faintly vegetable and unpl.	3.40	1.40	.0016	.0072	.0070	.0002	.25	1.4
Nov. 3	V. slight.	Slight.	.01	V. faintly vegetable.	Faintly vegetable.	3.25	1.40	.0008	.0098	.0090	.0008	.25	1.6
Nov. 18	V. slight.	V. slight.	.05	V. faintly vegetable.	V. faintly vegetable.	3.50	1.50	.0022	.0118	.0090	.0028	.26	1.3
Dec. 12	V. slight.	V. slight.	.01	V. faintly vegetable.	V. faintly vegetable.	5.00	1.90	.0012	.0088	.0070	.0018	.27	1.3
Dec. 22	V. slight.	V. slight.	.07	V. faintly vegetable.	Faintly vegetable.	3.75	1.55	.0006	.0124	.0090	.0034	.28	1.4
Av.	.....	.....	.06	.....	.....	3.85	1.60	.0016	.0101	.0083	.0018	.26	1.4
													1.4

TABLE No. 11. — Chemical Examinations of Water from the Sudbury Reservoir. [Parts per 100,000]

Date of Collection	APPEARANCE			ODOR		RESIDUE ON EVAPO- RATION		AMMONIA			Chlorine	Hardness	
	Turbidity	Sediment	COLOR	Cold	Hot	Total	Loss on Ignition	Free	Total	Dissolved			Suspended
Jan. 6	None.	V. slight.	.09	V. faintly vegetable.	Faintly vegetable.	4.10	1.80	.0014	.0112	.0092	.0020	.25	1.4
Feb. 3	V. slight.	V. slight.	.09	V. faintly vegetable.	V. faintly vegetable.	4.30	1.70	.0020	.0080	.0070	.0010	.28	1.4
Mar. 10	None.	V. slight.	.11	V. faintly vegetable.	Faintly vegetable.	4.30	1.50	.0034	.0118	-	-	.28	1.6
Apr. 8	V. slight.	V. slight.	.12	Faintly cucumber.	Distinctly cucumber.	4.20	1.55	.0028	.0136	.0078	.0058	.30	1.7
May 5	V. slight.	V. slight.	.20	V. faintly vegetable.	Faintly vegetable.	4.55	1.70	.0024	.0154	.0120	.0034	.31	1.6
June 10	V. slight.	V. slight.	.10	V. faintly vegetable.	Faintly vegetable.	3.95	1.65	.0054	.0156	.0140	.0016	.29	1.1
July 7	V. slight.	V. slight.	.10	Faintly vegetable.	Distinctly vegetable.	5.15	2.00	.0012	.0138	.0102	.0036	.26	1.3
Aug. 4	V. slight.	V. slight.	.08	V. faintly vegetable.	Faintly vegetable.	3.85	1.45	.0006	.0118	.0104	.0014	.29	1.6
Sept. 4	V. slight.	V. slight.	.06	V. faintly vegetable.	V. faintly vegetable.	3.85	1.40	.0042	.0140	.0114	.0026	.26	1.4
Oct. 6	V. slight.	V. slight.	.04	V. faintly vegetable.	V. faintly vegetable.	4.70	2.05	.0028	.0092	.0082	.0010	.26	1.6
Nov. 5	V. slight.	V. slight.	.03	V. faintly vegetable.	Faintly vegetable.	3.15	1.25	.0012	.0080	.0072	.0008	.26	1.4
Dec. 8	V. slight.	Slight.	.01	V. faintly vegetable.	V. faintly vegetable.	3.85	1.60	.0012	.0118	.0116	.0002	.30	1.3
Av.	.....	.....	.09	.....	.....	4.16	1.64	.0024	.0120	.0099	.0021	.28	1.5

TABLE No. 12. — Chemical Examinations of Water from Spot Pond, Stoneham. [Parts per 100,000]

Jan. 5	V. slight.	V. slight.	.05	V. faintly vegetable.	Faintly vegetable.	3.85	1.55	.0024	.0128	.0094	.0034	.30	1.7
Feb. 2	V. slight.	V. slight.	.04	V. faintly unpl. and fishy.	Faintly unpl. and fishy.	4.35	1.75	.0046	.0200	.0080	.0120	.35	1.6
Mar. 9	V. slight.	V. slight.	.02	V. faintly vegetable and unpl.	Faintly vegetable and unpl.	3.95	1.80	.0014	.0118	.0104	.0014	.30	1.3
Apr. 6	Slight.	Slight.	.02	Faintly cucumber.	Distinctly cucumber.	4.50	1.60	.0020	.0174	.0118	.0056	.30	1.7
May 4	V. slight.	V. slight.	.08	V. faintly unpleasant.	Faintly unpleasant.	3.50	1.35	.0008	.0146	.0114	.0032	.30	1.3
June 8	V. slight.	V. slight.	.11	V. faintly vegetable.	Faintly vegetable.	3.90	1.55	.0024	.0132	.0112	.0020	.28	1.4
July 6	V. slight.	V. slight.	.02	V. faintly vegetable.	Faintly vegetable.	4.15	1.80	.0014	.0116	.0098	.0018	.32	1.4
Aug. 3	V. slight.	V. slight.	.04	V. faintly vegetable.	V. faintly vegetable.	4.05	1.85	.0014	.0210	.0190	.0020	.33	1.6
Sept. 7	V. slight.	V. slight.	.05	V. faintly vegetable.	V. faintly vegetable.	4.20	1.55	.0034	.0176	.0138	.0038	.30	1.4
Oct. 5	V. slight.	V. slight.	.03	V. faintly vegetable.	Faintly vegetable.	4.00	1.80	.0026	.0110	.0102	.0008	.30	1.7
Nov. 3	V. slight.	V. slight.	.02	V. faintly vegetable.	Faintly vegetable.	3.60	1.60	.0014	.0112	.0080	.0032	.32	1.7
Dec. 7	V. slight.	V. slight.	.01	V. faintly vegetable and unpl.	Faintly vegetable and unpl.	3.50	1.40	.0014	.0170	.0126	.0044	.32	1.4
Av.	.....	.....	.04..	.....	.....	3.96	1.63	.0021	.0149	.0113	.0036	.31	1.5



TABLE No. 13. --- Chemical Examinations of Water from Lake Cochituate. [Parts per 100,000]

Date of Collection	APPEARANCE			ODOR		RESIDUE ON EVAPO- RATION		AMMONIA			Chlorine	Hardness	
	Turbidity	Sediment	COLOR Platinum Standard	Cold	Hot	Total	Loss on Ignition	Free	ALBUMINOID				
									Total	Dissolved			Suspended
Jan. 5	V. slight.	V. slight.	.13	Faintly veg. and cucumber.	Distinctly veg. and cucumber.	8.45	3.10	.0180	.0168	.0112	.0056	3.3	
Jan. 5	Slight.	Slight.	.18	V. faintly veg. and earthy.	Faintly vegetable and earthy.	8.40	3.05	.0340	.0148	.0128	.0020	3.1	
Feb. 4	V. slight.	V. slight.	.12	Faintly cucumber.	Distinctly cucumber.	7.80	2.35	.0002	.0198	.0120	.0078	3.0	
Mar. 5	V. slight.	Slight.	.13	Faintly cucumber.	Distinctly cucumber.	7.10	2.05	.0040	.0246	.0162	.0084	2.9	
Apr. 9	V. slight.	Slight.	.18	Faintly vegetable and marshy.	Distinctly vegetable and marshy.	6.95	2.30	.0020	.0198	.0126	.0072	2.7	
May 7	V. slight.	Slight.	.12	Faintly vegetable and marshy.	Distinctly vegetable and marshy.	6.80	2.25	.0008	.0188	.0140	.0048	2.9	
June 11	V. slight.	V. slight.	.11	V. faintly vegetable and unpl.	Faintly vegetable and unpl.	7.10	2.30	.0064	.0164	.0152	.0012	2.7	
July 7	None.	V. slight.	.10	V. faintly vegetable.	Faintly vegetable.	6.60	2.10	.0050	.0128	.0118	.0010	2.6	
Aug. 5	V. slight.	V. slight.	.10	Faintly vegetable.	Distinctly vegetable.	7.00	2.40	.0012	.0172	.0134	.0038	3.1	
Sept. 9	V. slight.	V. slight.	.05	Faintly vegetable.	Distinctly vegetable.	7.20	2.70	.0020	.0240	.0168	.0072	1.4	
Oct. 14	V. slight.	V. slight.	.10	Faintly vegetable.	Distinctly vegetable.	6.30	2.40	.0054	.0146	.0122	.0024	2.9	
Nov. 4	V. slight.	V. slight.	.08	Faintly earthy.	Distinctly earthy.	7.50	2.05	.0128	.0158	.0118	.0040	2.9	
Dec. 9	V. slight.	Slight.	.10	Faintly vegetable and earthy.	Distinctly vegetable and earthy.	6.85	2.00	.0054	.0218	.0150	.0068	2.9	
Av.	.....	.....	.12	.....	.....	7.23	2.39	.0075	.0182	.0134	.0048	2.8	

TABLE No. 14. --- Chemical Examinations of Water from a Tap at the State House, Boston. [Parts per 100,000]

Date	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.	V. slight.</
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YEAR	COLOR	RESIDUE ON EVAPORATION		AMMONIA				Chlorine	Oxygen Consumed	Hardness
	Platinum Standard	Total	Loss on Ignition	Free	ALBUMINOID					
					Total	Dissolved	Suspended			
1898	.40	4.19	1.60	.0008	.0152	.0136	.0016	.29	.44	1.4
1899	.28	3.70	1.30	.0006	.0136	.0122	.0014	.24	.35	1.1
1900	.29	3.80	1.20	.0012	.0157	.0139	.0018	.25	.38	1.3
1901	.29	4.43	1.64	.0013	.0158	.0142	.0016	.30	.42	1.7
1902	.30	3.93	1.56	.0016	.0139	.0119	.0020	.29	.40	1.3
1903	.29	3.98	1.50	.0013	.0125	.0110	.0015	.30	.39	1.5
1904	.23	3.93	1.59	.0023	.0139	.0121	.0018	.34	.37	1.5
1905	.24	3.86	1.59	.0020	.0145	.0124	.0021	.35	.35	1.4
1906	.24	3.86	1.39	.0018	.0159	.0134	.0025	.34	.36	1.3
1907	.22	3.83	1.40	.0013	.0129	.0109	.0020	.33	.32	1.3
1908	.19	3.50	1.35	.0011	.0115	.0092	.0024	.33	.26	1.2
1909	.18	3.46	1.43	.0011	.0128	.0103	.0025	.28	.25	1.3
1910	.14	3.05	1.24	.0013	.0118	.0102	.0016	.28	.22	1.1
1911	.25	4.18	1.66	.0015	.0156	.0128	.0029	.38	.33	1.4
1912	.17	3.86	1.23	.0018	.0154	.0119	.0034	.36	.29	1.7
1913	.13	3.96	1.15	.0014	.0150	.0120	.0026	.35	.26	1.5
1914	.14	4.12	1.19	.0014	.0138	.0116	.0022	.39	.25	1.4
1915	.16	3.73	1.04	.0015	.0157	.0134	.0023	.38	.25	1.4
1916	.18	4.53	1.85	.0013	.0133	.0107	.0026	.36	—	1.4
1917	.15	4.45	1.68	.0015	.0142	.0124	.0018	.33	—	1.3
1918	.18	3.89	1.45	.0019	.0154	.0128	.0026	.29	—	1.4
1919	.20	4.28	1.41	.0010	.0130	.0108	.0022	.36	—	1.5
1920	.17	4.23	1.35	.0012	.0112	.0097	.0014	.33	—	1.5
1921	.13	3.80	1.39	.0006	.0104	.0089	.0015	.25	—	1.4
1922	.16	3.98	1.55	.0011	.0097	.0080	.0017	.30	—	1.8
1923	.15	3.90	1.45	.0011	.0100	.0090	.0010	.26	—	1.5
1924	.12	4.10	1.60	.0011	.0109	.0084	.0025	.28	—	1.5
1925	.09	3.98	1.62	.0013	.0109	.0093	.0016	.29	—	1.5

TABLE NO. 16. — *Number of Bacteria per Cubic Centimeter in Water from Various Parts of the Metropolitan Water Works, 1898–1925.* [Averages of weekly determinations]

YEAR	CHESTNUT HILL RESERVOIR			SOUTHERN SERVICE TAPS	
	Sudbury Aqueduct Terminal Chamber	Cochituate Aqueduct	Effluent Gate-house No. 2	Low Service, 180 Boylston Street	High Service, 1 Ashburton Place
1898	207	145	111	96	—
1899	224	104	217	117	123
1900	248	113	256	188	181
1901	225	149	169	162	168
1902	203	168	121	164	246
1903	76	120	96	126	243
1904	347	172	220	176	355
1905	495	396	489	231	442
1906	231	145	246	154	261
1907	147	246	118	130	176
1908	162	138	137	136	148
1909	198	229	119	150	195
1910	216	—	180	178	213
1911	205	204	151	175	197
1912	429	450	227	249	259
1913	123	243	157	119	140
1914	288	—	252	174	220
1915	163	—	128	117	134
1916	128	—	85	102	105
1917	178	112	119	119	141
1918	1,163	168	705	317	544
1919	92	85	100	70	84
1920	148	86	108	113	112
1921	103	—	83	92	92
1922	163	—	153	160	172
1923	229	—	178	217	230
1924	137	—	96	150	160
1925	144	251	120	155	174



TABLE No. 17. — Colors of Water from Various Parts of the Metropolitan Water Works in 1925. (Averages of Weekly Determinations)  
[Platinum Standard]

MONTH	WACHUSETT RESERVOIR						FRAM- INGHAM RESER- VOIR No. 3	LAKE COCHITUATE			CHESTNUT HILL RESERVOIR			SPOT POND	FELLS RESER- VOIR	NORTHERN SERVICE		SOUTHERN SERVICE	
	Surface	Mid-depth	Bottom	Worcester St. Bridge	Quinapoxet River	Stillwater River		Surface	Mid-Depth	Bottom	Inlet (Sudbury Aqueduct)	Inlet (Cochituate Aqueduct)	Effluent Gate-house No. 2	Mid-depth	Effluent Gate-house	Tap at Glenwood Yard, Medford (Low Ser- vice)	Tap at Glenwood Yard, Medford (High Ser- vice)	Tap at 180 Boylston Street, Boston (Low Service)	Tap at 1 Ashburton Place, Boston (High Service)
January	15	15	15	23	43	22	17	17	22	34	18	—	18	15	16	18	17	18	18
February	16	15	16	49	49	39	19	17	23	27	19	—	17	16	16	17	16	17	17
March	16	17	16	44	47	39	23	24	24	24	23	—	21	17	17	21	16	21	21
April	17	16	17	39	44	39	24	25	25	27	24	—	23	17	17	23	17	23	23
May	16	17	16	39	49	38	22	21	21	25	22	—	21	17	16	21	16	21	21
June	12	13	12	29	44	33	15	14	15	26	18	—	17	10	10	18	10	17	17
July	9	9	10	15	44	26	11	10	10	—	12	11	11	7	7	11	7	11	11
August	9	9	10	16	35	25	10	10	—	—	10	10	10	8	9	10	9	10	10
September	8	9	11	13	37	21	10	10	—	—	9	10	9	9	9	9	9	9	9
October	9	9	9	19	44	32	9	15	19	62	9	—	9	9	9	9	9	9	9
November	9	9	9	53	54	42	10	14	13	13	10	—	9	9	8	9	8	9	9
December	9	10	9	48	49	37	14	14	14	14	14	—	11	8	8	11	11	11	11
Mean	12	12	13	32	45	33	16	17	20	28	16	10	15	12	12	15	12	15	15

TABLE No. 18. — *Temperatures of Water from Various Parts of the Metropolitan Water Works in 1925. (Averages of Weekly Determinations)*

[The temperatures are taken at the same places and times as the samples for microscopical examination; the depth at place of observation is from high-water mark.]  
[Degrees Fahrenheit.]

MONTH	WACHUSETT <sup>1</sup> RESERVOIR (DEPTH AT PLACE OF OBSERVATION 107 FEET)			SUDBURY <sup>1</sup> RESERVOIR (DEPTH AT PLACE OF OBSERVATION 54.5 FEET)			WACHU- SETT AQUE- DUCT	FRAMINGHAM <sup>1</sup> RESERVOIR No. 3 (DEPTH AT PLACE OF OBSERVATION 20.5 FEET)			LAKE COCHITUATE <sup>1</sup> (DEPTH AT PLACE OF OBSERVATION 62.0 FEET)			CHEST- NUT HILL RESER- VOIR No. 2	SPOT POND <sup>1</sup> (DEPTH AT PLACE OF OBSERVATION 28.0 FEET)			NORTHERN SERVICE		SOUTHERN SERVICE	
	Surface	Mid-depth	Bottom	Surface	Mid-depth	Bottom	End of Open Channel	Surface	Mid-depth	Bottom	Surface	Mid-depth	Bottom	Effluent Gate-house No. 2	Surface	Mid-depth	Bottom	Tap at Glenwood Yard, Medford (Low Service)	Tap at Glenwood Yard, Medford (High Service)	Tap at 180 Boylston Street, Boston (Low Service)	Tap at 1 Ashburton Place, Boston (High Service)
January	34.1	34.8	35.0	33.7	35.3	35.5	33.8	34.0	34.5	35.2	35.1	36.6	37.5	35.2	33.9	36.0	35.5	38.5	37.5	37.5	38.5
February	34.5	35.5	36.3	34.3	35.0	37.5	34.8	35.3	35.5	34.6	36.0	—	—	38.1	35.7	37.5	36.8	38.4	39.5	38.3	39.4
March	37.0	37.3	37.5	38.8	39.7	39.0	38.0	39.9	39.8	39.8	40.2	41.2	41.1	39.7	40.3	41.0	40.3	41.6	41.6	41.6	42.2
April	45.1	42.8	44.8	49.1	50.5	45.0	45.0	49.8	47.3	51.9	49.0	47.1	45.8	49.9	48.1	46.0	48.8	49.2	48.3	50.6	51.3
May	53.7	50.0	51.0	56.6	56.3	52.8	53.0	57.6	56.8	56.7	56.8	51.2	47.8	55.9	55.6	54.5	56.3	56.6	54.8	57.6	58.3
June	65.3	54.5	51.5	69.7	63.0	63.0	58.0	69.7	65.9	66.0	69.7	53.6	48.4	67.0	68.2	65.0	62.5	65.8	62.5	66.8	67.6
July	74.5	62.5	62.5	75.0	74.0	69.0	64.0	74.7	73.0	73.8	75.7	—	—	74.4	74.7	73.5	71.0	73.7	69.7	74.3	74.9
August	73.6	72.0	54.8	73.6	71.5	70.5	65.0	74.6	73.5	73.3	74.9	—	—	73.5	73.1	73.0	72.2	72.4	70.6	72.8	73.5
September	67.8	61.5	54.0	68.9	68.2	68.0	65.5	67.8	67.2	68.0	67.5	—	—	69.1	68.7	69.0	67.5	70.0	67.5	69.7	70.1
October	55.0	52.5	54.5	53.5	52.0	56.5	47.0	51.1	53.9	48.0	53.4	51.0	49.0	56.5	54.4	56.8	51.3	57.6	56.6	57.1	57.4
November	46.1	45.0	48.5	44.1	44.5	45.0	44.0	42.6	42.8	42.7	45.8	45.6	46.0	44.8	45.3	45.5	—	49.1	49.3	48.4	48.5
December	37.0	39.0	38.3	36.6	39.0	37.0	37.8	34.9	34.5	38.0	37.4	39.1	39.5	36.1	36.4	35.3	37.3	41.2	42.3	39.9	40.3
Mean	52.0	49.0	47.4	52.8	52.4	51.6	48.8	52.7	52.1	52.3	53.5	45.7	44.4	53.4	52.9	52.8	52.7	54.5	53.4	54.6	55.2

<sup>1</sup> Surface temperatures are averages of weekly determinations. Mid-depth and bottom temperatures are averages of biweekly determinations.



TABLE No. 19. — Length of Metropolitan Water Works Main Lines and Connections and Number of Valves set in Same, Dec. 31, 1925 P. D. 48

	DIAMETER OF PIPES IN INCHES																	Total
	60	56	48	42	40	38	36	30	24	20	16	14	12	10	8	6	4	
Total length owned and operated Dec. 31, 1924 (feet)	66,757	2,830	211,092	9,810	6,887	-	63,706	51,141	96,056	99,907	74,396	26	29,156	3,853	1,890	1,282	46	718,835
Gate valves in same	9	-	56	1	3	-	61	45	67	61	96	1	119	22	19	25	1	586
Air valves in same	77	8	125	5	5	-	47	24	53	62	38	-	10	1	-	-	-	455
Length laid or relaid during 1925 (feet)	13,756	14,739	4,452	-	-	4,766	6	381	25	109	83	-	153	25	10	-	-	38,505
Gate valves in same	3	-	1	-	-	-	-	1	-	2	4	-	5	-	2	-	-	18
Air valves in same	31	-	2	-	-	4	-	-	-	1	-	-	-	-	-	-	-	38
Length abandoned during 1925 (feet)	-	-	7	-	-	-	-	2	25	9	-	-	33	25	-	-	-	101
Gate valves in same	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Air valves in same	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Length owned and operated Dec. 31, 1925 (feet)	80,513 <sup>1</sup>	17,569 <sup>2</sup>	215,537	9,810	6,887	4,766 <sup>2</sup>	63,712	51,520 <sup>3</sup>	96,056	100,007	74,479	26	29,276	3,853	1,900	1,282	46	757,239 <sup>4</sup>
Gate valves in same	12	-	57	1	3	-	61	46	67	63	100	1	124	22	21	25	1	604
Air valves in same	108	8	127	5	5	4	47	24	53	63	38	-	10	1	-	-	-	493

<sup>1</sup> Includes 2,035 feet of 76-inch concrete lined pressure tunnel; 363 feet of 76-inch mortar-lined and concrete-covered steel pipe; 21 feet of 76-inch cast-iron pipe; 85 feet of 60-inch concrete-covered steel pipe and 33,220 feet of steel pipe.

<sup>2</sup> Steel pipe.

<sup>3</sup> Includes 15,512 feet of 30-inch mortar-lined and covered wrought-iron pipe.

<sup>4</sup> 143.42 miles.

TABLE No. 20. — Length of Metropolitan Water Works Hydrant, Blow-off and Drain Pipes, Dec. 31, 1925. [All pipes are of cast iron]

	DIAMETER OF PIPES IN INCHES								Total
	24	20	16	12	10	8	6	4	
Total length in use, December 31, 1924	352	292	3,391	6,904	176	545	4,048	1,569	17,277
Valves in same	—	—	39	110	2	9	97	46	303
Length laid or relaid in 1925 (feet)	—	—	139	62	—	—	17	—	218
Valves in same	—	—	4	4	—	—	1	—	9
Length abandoned in 1925 (feet)	—	—	—	2	—	—	—	—	2
Valves in same	—	—	—	—	—	—	—	—	—
Total length in use December 31, 1925	352	292	3,530	6,964	176	545	4,065	1,569	17,493 <sup>1</sup>
Valves in same	—	—	43	114	2	9	98	46	312

<sup>1</sup> 3.31 miles.

TABLE No. 21. — Length of Metropolitan Water Works Main Lines and Connections and Water Pipes, Four Inches in Diameter and Larger, in the Several Cities and Towns supplied by the Metropolitan Water Works, Dec. 31, 1925

BY WHOM OWNED	INCHES																	TOTALS			
																		Feet	Miles		
	60	56	48	42	40	38	36	30	24	20	18	16	14	12	10	8	7	6	4		
Metropolitan Water Works	80,513	17,569	215,537	9,810	6,887	4,766	63,712	51,520	96,056	100,007	-	74,479	26	29,276	3,853	1,900	-	1,282	46	757,239	143.42
Arlington	-	-	-	-	-	-	-	-	-	-	-	-	-	25,208	32,053	44,543	-	201,000	14,167	316,971	60.03
Belmont	-	-	-	-	-	-	-	-	-	-	-	-	-	9,002	23,707	38,594	-	155,081	269	226,653	42.93
Boston	-	-	16,219	15,980	16,081	-	43,535	93,707	81,297	86,520	-	285,119	5,041	1,582,879	443,204	919,278	-	1,134,961	85,749	4,809,570	910.90
Brookline	-	-	-	-	-	-	-	-	7,953	25,199	-	19,525	13,020	58,841	68,762	86,289	-	251,994	-	531,583	100.68
Chelsea	-	-	-	-	-	-	-	-	-	-	-	5,176	-	5,479	39,826	31,902	-	147,545	6,747	236,675	44.82
Everett	-	-	-	-	-	-	-	-	2,484	2,900	-	6,948	5,998	8,306	44,255	27,217	-	155,779	29,190	283,077	53.61
Lexington	-	-	-	-	-	-	-	-	-	-	-	-	-	9,701	5,011	36,141	-	149,248	27,870	227,971	43.18
Malden	-	-	-	-	-	-	-	-	-	-	-	8,891	11,118	89,276	32,541	98,195	-	229,518	50,837	520,376	98.56
Medford	-	-	-	-	-	-	-	-	-	673	-	6,775	9,598	39,106	42,154	107,226	-	202,132	27,280	434,944	82.38
Melrose	-	-	-	-	-	-	-	-	-	-	-	5,223	3,024	23,097	20,903	27,707	-	168,741	53,557	302,252	57.24
Milton	-	-	-	-	-	-	-	-	-	-	-	103	44	24,382	22,078	70,318	-	193,428	17,659	328,012	62.12
Nahant	-	-	-	-	-	-	-	-	-	-	-	-	4,000	150	11,550	6,000	-	36,800	57,718	116,218	22.01
Newton	-	-	-	-	-	-	-	-	981	29,830	-	3,070	-	85,413	7,099	170,804	-	581,330	62,549	941,076	178.23
Quincy	-	-	-	-	-	-	-	-	-	2,679	-	23,232	-	36,576	57,175	182,233	994	423,044	89,967	815,900	154.53
Revere	-	-	-	-	-	-	-	-	-	-	-	10,600	5,785	30,115	29,936	46,269	-	138,929	67,274	328,908	62.29
Somerville	-	-	-	-	-	-	-	-	367	4,597	-	4,201	7,950	102,230	63,987	113,090	-	214,737	21,342	532,501	100.85
Stoneham	-	-	-	-	-	-	-	-	-	-	-	-	-	7,425	1,825	5,110	-	114,419	20,063	148,842	28.19
Swampscott	-	-	-	-	-	-	-	-	-	-	-	-	3,721	6,714	20,103	6,620	-	103,330	8,121	148,609	28.15
Watertown	-	-	-	-	-	-	-	-	-	-	-	2,991	11,262	5,496	27,505	35,031	-	149,917	8,022	240,224	45.50
Winthrop	-	-	-	-	-	-	-	-	-	-	-	-	-	4,049	24,198	41,074	-	55,818	50,238	175,377	33.22
Total feet	80,513	17,569	231,756	25,790	22,968	4,766	107,247	145,227	188,771	252,405	367	456,333	80,587	2,182,721	1,021,725	2,095,541	994	4,809,033	698,665	12,422,978	-
Total miles	15.25	3.33	43.89	4.88	4.35	0.90	20.31	27.51	35.75	47.81	0.07	86.43	15.26	413.40	193.51	396.88	0.19	910.80	132.32	-	2,352.84



TABLE NO. 22. — *Number of Service Pipes, Meters, Per Cent of Services Metered, Fire Services and Fire Hydrants in the Several Cities and Towns in the Metropolitan Water District Dec. 31, 1925*

CITY OR TOWN	Services	Meters	Per Cent of Services Metered	Services Used for Fire Purposes Only	Fire Hydrants
Arlington . . . . .	4,940	4,940	100.00	20	635
Belmont . . . . .	3,053	3,053	100.00	8	360
Boston . . . . .	92,382	88,788	96.11	2,392	11,121
Brookline . . . . .	6,600	6,600	100.00	27	841
Chelsea . . . . .	5,547	5,538	99.84	113	422
Everett . . . . .	6,554	5,973	91.14	41	574
Lexington . . . . .	1,804	1,794	99.45	7	286
Malden . . . . .	8,689	8,640	99.44	67	656
Medford . . . . .	8,405	8,405	100.00	20	827
Melrose . . . . .	4,974	4,974	100.00	22	409
Milton . . . . .	3,161	3,161	100.00	3	496
Nahant . . . . .	868	679	78.23	2	106
Newton . . . . .	11,500	11,431	99.40	66	1,236
Quincy . . . . .	13,919	12,938	92.95	26	1,448
Revere . . . . .	5,792	4,982	86.02	7	367
Somerville . . . . .	13,614	13,206	97.00	62	1,297
Stoneham . . . . .	2,009	2,009	100.00	4	162
Swampscott . . . . .	2,311	2,311	100.00	8	240
Watertown . . . . .	4,440	4,440	100.00	33	509
Winthrop . . . . .	3,378	3,378	100.00	5	345
Totals . . . . .	203,940	197,240	96.71	2,933	22,337

TABLE No. 23. — Elevation of the Hydraulic Grade Line, in Feet, above Boston City Base for Each Month at Stations on Metropolitan Water Works during 1925

1925 MONTH	Low Service						SOUTHERN HIGH SERVICE											
	BOSTON, ENGINE HOUSE, BULFINCH STREET		ALLSTON ENGINE HOUSE, HARVARD STREET		MEDFORD, NEAR MYSTIC RESERVOIR		SOMERVILLE PUBLIC LIBRARY, HIGHLAND AVENUE		MALDEN WATER WORKS SHOP, GREEN STREET		CHELSEA COURT HOUSE		BOSTON METRO- POLITAN WATER WORKS OFFICE, 1 ASHBURTON PLACE		WATERTOWN WATER WORKS, OFFICE, MAIN STREET		BELMONT <sup>1</sup> WATER WORKS SHOP, WAVER- LEY STREET	
	Maximum	Minimum	Maximum	Minimum	Maximum	Minimum	Maximum	Minimum	Maximum	Minimum	Maximum	Minimum	Maximum	Minimum	Maximum	Minimum	Maximum	
January	155	132	188	170	168	160	169	158	167	158	160	146	245	224	261	237	254	226
February	155	135	190	170	167	159	169	158	166	158	160	146	248	227	261	237	256	226
March	158	137	190	171	167	160	169	158	167	158	160	148	248	227	261	235	254	222
April	157	139	188	173	165	159	167	158	166	158	160	147	248	224	261	235	256	224
May	157	141	190	173	167	159	169	158	166	158	160	147	245	224	261	235	254	217
June	155	137	190	182	167	161	169	158	168	158	162	148	246	222	261	224	254	192
July	155	134	189	182	168	161	169	160	167	158	161	147	248	222	261	219	254	201
August	153	130	187	182	168	161	169	157	167	156	161	148	248	224	261	220	254	
September	153	132	189	178	168	161	168	160	167	158	162	146	248	220	261	219		
October	153	132	190	178	165	158	169	158	167	156	162	153	248	221	261	221		
November	155	132	190	184	181	158	180	157	170	156	167	151	248	221	261	221		
December	155	132	190	179	183	160	180	157	170	156	167	148	248	222	261	219		
Averages	155	134	189	177	170	160	171	158	167	157	162	148	247	223	261	227	255	215

<sup>1</sup> Supplied from new Weston Aqueduct Supply Main since July 21, 1926.



TABLE No. 23. — Elevation of the Hydraulic Grade Line, in Feet, above Boston City Base, etc. — Concluded

1925 MONTH	SOUTHERN HIGH SERVICE — Concluded						NORTHERN HIGH SERVICE						NORTHERN EXTRA HIGH SERVICE					
	MILTON WATER WORKS OFFICE, ADAMS STREET		FORBES HILL TOWER, QUINCY		QUINCY WATER WORKS SHOP		SOMERVILLE WATER WORKS SHOP		MALDEN CITY HALL		REVERE WATER WORKS SHOP, BROADWAY		LYNN ENGINE HOUSE, UNION SQUARE		WINTHROP TOWN HALL, HERMAN STREET		LEXINGTON TOWN HALL, MASSACHUSETTS AVENUE	
	Maximum	Minimum	Maximum	Minimum	Maximum	Minimum	Maximum	Minimum	Maximum	Maximum	Minimum	Maximum	Maximum	Minimum	Maximum	Maximum	Minimum	Maximum
January	247	223	242	227	235	192	268	252	269	258	266	250	263	236	199	171	432	414
February	246	225	244	229	238	192	268	248	269	260	263	244	263	238	201	168	432	409
March	247	225	245	229	239	202	268	243	269	260	261	245	261	241	201	175	430	409
April	247	224	245	227	239	198	268	245	269	258	261	243	261	238	198	175	430	404
May	247	223	245	227	239	198	268	248	268	258	263	240	263	220	199	168	430	392
June	247	212	242	213	237	168	268	237	267	251	263	225	259	190	201	152	430	370
July	247	218	242	219	238	175	266	240	267	253	261	213	247	185	201	166	432	392
August	245	216	241	218	238	172	268	224	268	251	260	207	245	166	199	150	427	380
September	246	221	242	217	237	175	268	238	268	253	260	221	259	172	201	159	432	386
October	248	223	241	226	235	191	268	248	269	260	265	239	263	227	201	178	439	379
November	248	230	242	226	233	193	268	249	269	260	265	237	263	220	201	171	434	411
December	248	225	242	223	238	186	268	238	269	258	265	237	257	220	199	173	434	411
Averages	247	222	243	223	237	187	268	243	268	257	263	233	259	213	200	167	432	396

APPENDIX No. 4

CONTRACTS MADE AND PENDING DURING  
*Contracts relating to the*

	1 Number of Contract	2  WORK	3 Number of Bids	AMOUNT OF BID		6  Contractor
				4 Next to Lowest	5 Lowest	
1	18 <sup>2</sup>	Section 77, Mill Brook Valley Sewer, North Metropolitan System, in Medford.	7	\$120,825 00 <sup>1</sup>	\$117,256 25	Anthony Baruffaldi Co., Somerville.
2	19	Section 78, Mill Brook Valley Sewer, North Metropolitan System, in Medford and Arlington.	7	115,790 00	110,235 00 <sup>1</sup>	Anthony Baruffaldi Co., Somerville.
3	21	Section 79, Mill Brook Valley Sewer, North Metropolitan System, in Arlington.	10	47,621 00	43,265 00 <sup>1</sup>	Antony Cefalo, West Roxbury.

*Contracts relating to the*

1	20 <sup>2</sup>	Surfacing a Public Way leading from Sea Street to the Metropolitan Sewerage embankment and over this embankment to a point in Rock Island Road, so-called, Hough's Neck, Quincy, Mass.	2	\$2,012 50	\$1,250 00 <sup>1</sup>	Arthur W. Loud, Quincy.
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<sup>1</sup> Contract based upon this bid.



APPENDIX No. 4

THE YEAR 1925 — SEWERAGE DIVISION  
*North Metropolitan System*

7	8	9	10	
Date of Con- tract	Date of Completion of work	Prices of Principal Items of Contracts made in 1925	Value of Work done Dec. 31, 1925	
July 3, 1924	Dec. 17, 1925	-	\$136,136 62	1
April 16, 1925	-	For earth excavation and refilling in trench and embankment for 36-inch by 42-inch concrete sewer, \$15.00 per lin. ft.; for earth excavation and refilling in trench and laying of pipe for 30-inch cast-iron pipe sewer and 16-inch and 20-inch cast-iron pipe siphon, \$18.00 per lin. ft.; for earth or rock excavation or both and refilling in tunnel for 36-inch by 42-inch concrete or concrete and brick sewer, \$25.00 per lin. ft.; for Portland cement brick masonry in manholes and special structures, \$40.00 per cu. yd.; for Portland cement brick masonry in tunnel and tunnel shafts, \$40.00 per cu. yd.; for Portland cement concrete masonry in trench, brook crossing, siphon and special structures, \$15.00 per cu. yd.; for Portland cement concrete masonry in tunnel and tunnel shafts, \$20.00 per cu. yd.; for Portland cement boulder, concrete masonry in trench, \$10.00 per cu. yd.; for spruce piles in trench and brook abutments, \$0.50 per lin. ft.; for rock excavation in trench, \$5.00 per cu. yd.	83,673 38	2
Dec. 3, 1925	-	For earth excavation and refilling in trench and laying of pipe for 20-inch and 24-inch Akron pipe main sewer, \$5.00 per lin ft.; for earth or rock excavation or both in tunnel and laying of pipe for 20-inch Akron pipe main sewer, \$50.00 per lin. ft.; for earth excavation and refilling in trench, and laying of pipe for 20-inch Akron pipe and 10-inch cast-iron pipe relief sewer, \$5.00 per lin. ft.; for Portland cement brick masonry in manholes and special structures, \$36 per cu. yd.; for Portland cement concrete masonry in trench and special structures, \$10.00 per cu. yd.; for Portland cement boulder concrete masonry in tunnel and tunnel shafts, \$10.00 per cu. yd.; for Portland cement boulder concrete masonry in trench, \$8.00 per cu. yd.; for bank gravel refill around pipe in trench, \$5.00 per cu. yd.; for rock excavation in trench, \$17.00 per cu. yd.		3

*South Metropolitan System*

Sept. 11, 1925	Dec. 10, 1925	For furnishing binding gravel, including spreading, grading and rolling in place, \$1.70 per cu. yd.; for furnishing sand, or stone dust, including all spreading, \$1.50 per ton; for all asphalt furnished and distributed in place, \$0.13 per gallon.	\$1,563 50	1
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<sup>2</sup> Contract completed.

Summary of Contracts

	Value of Work done Dec. 31, 1925
North Metropolitan System, 3 contracts . . . . .	\$219,810 00
South Metropolitan System, 1 contract . . . . .	1,563 50
Total of 4 contracts made and pending during the year 1925 . . . . .	\$221,373 50



APPENDIX No. 5

FINANCIAL STATEMENT PRESENTED TO THE GENERAL COURT ON JANUARY 19, 1926

The Metropolitan District Commissioner respectfully presents the following abstract of the account of the receipts, expenditures, disbursements, assets and liabilities of the Metropolitan District Commission for the year ending November 30, 1925, together with recommendations for legislation which it deems desirable, in accordance with the provisions of section 100 of Chapter 92 of the General Laws.

METROPOLITAN WATER WORKS.  
*Construction.*

The loans authorized for expenditures under the Metropolitan Water acts, the receipts which are added to the loan fund, the expenditures for the construction and acquisition of works, and the balance available on December 1, 1925, have been as follows:

Loans authorized under Metropolitan Water acts, including appropriations under St. 1920, c. 530, to provide for the service pipe lines, the construction of a reservoir in Arlington for the northern extra high service, to provide additional pumping machinery for the northern high service at Spot Pond and the southern high service at Chestnut Hill pumping stations, and appropriation under St. 1925, c. 302 for various improvements		\$45,915,000 00
Receipt from town of Swampscott for admission to Metropolitan Water District, paid into Loan Fund (St. 1909, c. 320)		90,000 00
Receipt from town of Brookline for admission to Metropolitan Water District, paid into Loan Fund (St. 1925, c. 308)		400,000 00
Receipts from sales of property which are placed to the credit of the Metropolitan Water Loan Fund:		
For the year ending November 30, 1925	\$10,164 72	
For period prior to December 1, 1924	287,839 93	
		298,004 65
		\$46,703,004 65
Expended from Metropolitan Water Loan Fund:		
For the year ending November 30, 1925	\$1,370,288 73	
For the period prior to December 1, 1924	44,879,531 15	
		46,249,819 88
Balance December 1, 1925		\$453,184 77.

The amount of the Metropolitan Water Loan bonds issued at the end of the fiscal year was \$45,685,000, bonds to the amount of \$1,138,000 having been issued during the year. Of the total amount issued, \$41,398,000 were sinking fund bonds, and the remainder, amounting to \$4,287,000, was issued as serial bonds.

At the end of the year the amount of outstanding bonds was \$45,178,000, as bonds issued on the serial payment plan to the amount of \$507,000 had been paid. During the fiscal year \$85,000 in serial bonds has been paid.

The Metropolitan Water Loan Sinking Fund amounted on December 1, 1925, to \$22,478,585.22, an increase during the year of \$1,082,242.32.

The net debt on December 1, 1925, was \$22,699,414.78, a decrease of \$29,242.32.

*Maintenance*

Amount appropriated for the maintenance and operation of works, for the year ending November 30, 1925		\$785,900 00
Unexpended balance December 1, 1924, of amount appropriated for investigation, etc., of certain sources of water supply for the Metropolitan District.	11,849 16	
Receipts credited to this fund for the year ending November 30, 1925	5,487 59	
		\$803,236 75
Expended for maintenance and operation for the year ending November 30, 1925		736,269 14
Balance December 1, 1925		\$66,967 61

Included in the foregoing balance is \$1,719.22 remaining unexpended from the amount appropriated for investigation and experimentation for filtration of certain sources of water supply for the Metropolitan District, under Item 673, chapter 126, Acts of 1923.



The Commission has also received during the year ending November 30, 1925, \$86,228.99 from rentals, the sale of land, land products and power and from other proceeds from the operation of the Metropolitan Water Works which, according to section 18 of the Metropolitan Water Act, are applied by the Treasurer of the Commonwealth to the payment of interest on the Metropolitan Water Loan, sinking fund requirements and expenses of maintenance and operation of works, in reduction of the amount to be assessed upon the Metropolitan Water District for the year.

Sums received from sales of water to municipalities not belonging to the District and to water companies, and from municipalities for admission to the District, have been as follows: —

For the period prior to December 1, 1906, distributed to the cities and towns of the District, as provided by section 3 of the Metropolitan Water Act	\$219,865 65
For the period beginning December 1, 1906, and prior to December 1, 1924, applied to the Metropolitan Water Loan Sinking Fund, as provided by chapter 238 of the Acts of 1907	149,238 35
For the year beginning December 1, 1924, and ending November 30, 1925, applied to the Metropolitan Water Loan Sinking Fund, as provided by said last-named act	41,918 62
	<hr/> \$411,022 62

METROPOLITAN SEWERAGE WORKS

Construction

The loans authorized under the various acts of the Legislature for the construction of the Metropolitan Sewerage Works, the receipts which are added to the proceeds of the loans, and the expenditures for construction, are given below, as follows: —

NORTH METROPOLITAN SYSTEM	
Loans authorized for expenditures for construction under the various acts, including those for the Revere, Belmont and Malden extensions, North System enlargement and extensions, New Mystic sewer, Deer Island outfall extension, lowering sewer siphon under Malden River, balance of appropriation under chapter 76, Resolves of 1915, for the Reading extension, for the New Mystic sewer in Woburn and Winchester under chapter 529, Acts of 1922, and for the construction of the Mill Brook Valley sewer in Medford and Arlington, appropriated by chapter 116, Acts of 1924	\$8,288,500 00
Receipts from sales of real estate and from miscellaneous sources, which are placed to the credit of the North Metropolitan System:	
For the year ending November 30, 1925	101 00
For the period prior to December 1, 1924	87,566 04
	<hr/> \$8,376,167 04
Expended from the Metropolitan Sewerage Loan Fund, North System:	
For the year ending November 30, 1925	178,095 36
For the period prior to December 1, 1924	7,786,023 03
	<hr/> 7,964,118 39
Balance December 1, 1925	<hr/> \$412,048 65

SOUTH METROPOLITAN SYSTEM	
Loans authorized for expenditures for construction under the various acts, applied to the construction of the Charles River valley sewer, Neponset valley sewer, High-level sewer and extensions (including Wellesley branch), and an additional appropriation authorized by c. 525, Acts of 1920, for additional Ward Street station pumping plant, a new force main from the Quincy station, a new pump and other equipment at the Quincy station and an additional appropriation for the Wellesley extension, authorized under c. 529, Acts of 1922	\$10,002,912 00
Receipts for pumping, sales of real estate and from miscellaneous sources, which are placed to the credit of the South Metropolitan System:	
For the period ending December 1, 1925	24,599 61
	<hr/> \$10,027,511 61
Expended from the Metropolitan Sewerage Loan Fund, South System:	
On account of the Charles River valley sewer	\$800,046 27
On account of the Neponset valley sewer	911,531 46
On account of the High-level sewer and extensions:	
For the period prior to December 1, 1925	8,292,881 25
	<hr/> 10,004,458 98
Balance December 1, 1925	<hr/> \$23,052 63

The amount of the Metropolitan Sewerage Loan bonds issued at the end of the fiscal year was \$18,291,412, bonds to the amount of \$650,000 having been issued during the year. Of the total amount issued, \$15,440,912 were sinking fund bonds and the remainder, amounting to \$2,850,500, was serial bonds.



At the end of the year the amount of the outstanding bonds was \$17,689,412 as bonds issued on the serial payment plan to the amount of \$125,500 had been paid during the year, \$602,000 having been paid to December 1, 1925.

Of the total amount outstanding at the end of the year, \$7,929,500 were issued for the North Metropolitan System, and \$9,759,912 for the South Metropolitan System. The Metropolitan Sewerage Loan Sinking Fund amounted on December 1, 1925, to \$7,951,398.70, of which \$4,822,233.54 was on account of the North Metropolitan System, and \$3,129,165.16 was on account of the South Metropolitan System, an increase during the year of \$597,864.93.

The net debt on December 1, 1925, was \$9,738,013.30, a decrease of \$73,364.93.

Included in the above figures for the North Metropolitan System is \$1,725,500 in serial bonds, of which \$359,000 has been paid, and \$1,125,000 for the South Metropolitan System, of which \$243,000 has been paid.

Maintenance

NORTH METROPOLITAN SYSTEM

Appropriated for the year ending November 30, 1925	\$340,200 00
Receipts from pumping and other sources, which are returned to the appropriation:	
For the year ending November 30, 1925	241 62
	<hr/>
	\$340,441 62
Expended for maintenance and operation of Metropolitan Sewerage Works, North System, for the year ending November 30, 1925	298,966 13
	<hr/>
Balance December 1, 1925	\$41,475 49
Balance of appropriation under item 670½, c. 494, Acts 1923, reappropriated by Resolve 17, Acts 1924, to cover expenses relative to additional sewers in the town of Arlington and the city of Medford	18,338 19
Expended to November 30, 1925.	16,954 40
	<hr/>
Balance December 1, 1925	\$1,383 79

SOUTH METROPOLITAN SYSTEM

Appropriated for the year ending November 30, 1925	\$213,100 00
Receipts from sales of property, reimbursements and for pumping, which are returned to the appropriation:	
For the year ending November 30, 1925	241 23
	<hr/>
	\$213,341 23
Expended for maintenance and operation of Metropolitan Sewerage Works, South System, for the year ending November 30, 1925	188,651 13
	<hr/>
Balance December 1, 1925	\$24,690 10

The balance of \$412,048.65 on account of construction in the North Metropolitan System consists almost entirely of the amount appropriated and remaining unexpended for constructing the Mill Brook valley sewer in Medford and Arlington, under chapter 116, Acts of 1924, and the unexpended balance remaining for the completion of the New Mystic sewer and the Reading extension.

The balance of \$23,052.63 remaining unexpended on account of construction in the South Metropolitan Sewerage System consists of the amount remaining for the completion of the additions to the pumping plant at Ward Street pumping station, and also amounts appropriated under chapter 529 of the Acts of 1922 for the completion of the Wellesley extension of the High-level sewer, for the construction of a new force main from the Quincy pumping station and also for a new pump and other equipment at the Quincy pumping station.

METROPOLITAN PARKS DIVISION

Construction

The loans authorized under the various acts of the Legislature for the construction of Metropolitan Parks and Boulevards, Charles River bridges, Charles River Basin, North Beacon Street Bridge, Nantasket Beach, the receipts which have been added to the loan funds, the expenditures for the acquisition of property and construction of works, and the balances available on December 1, 1925, have been as follows: —



METROPOLITAN PARKS LOAN FUND	
Metropolitan Parks Loan Fund	\$9,093,043 96
Receipts added to loan before June 1, 1901	198,942 81
	<hr/>
	\$9,291,986 77
<i>Expenditures</i>	
For the year ending November 30, 1925	\$110 00
For the period prior to December 1, 1924	9,262,649 13
	<hr/>
	9,262,759 13
Balance December 1, 1925	<hr/>
	\$29,227 64

The amount of the Metropolitan Parks Loan bonds issued at the end of the fiscal year was \$9,809,000, no bonds having been issued during the year. Of the total amount issued, \$9,485,000 were sinking fund bonds, and the remainder, amounting to \$324,000, was issued as serial bonds.

At the end of the year the amount of outstanding bonds was \$9,588,750, as bonds issued on the serial payment plan to the amount of \$220,250 had been paid. During the fiscal year \$19,250 in serial bonds has been paid.

The Metropolitan Parks Loan Sinking Fund amounted on December 1, 1925, to \$5,384,712.70, an increase during the year of \$243,454.76.

The net debt on December 1, 1925, was \$4,204,037.30, a decrease of \$262,704.76.

METROPOLITAN PARKS LOAN FUND, SERIES II	
Metropolitan Parks Loan Fund, Series II	\$9,404,000 00
Receipts from sales, etc.	29,934 16
	<hr/>
	\$9,433,934 16
<i>Expenditures</i>	
For the year ending November 30, 1925	\$631,158 69
For the period prior to December 1, 1924	7,790,649 13
	<hr/>
	8,421,807 82
Balance December 1, 1925	<hr/>
	\$1,012,126 34

The amount of the Metropolitan Parks Loan, Series II., bonds issued at the end of the fiscal year was \$4,603,937.50, bonds to the amount of \$567,500 having been issued during the year. Of the total amount issued, \$2,567,500 were sinking fund bonds, and the remainder, amounting to \$2,036,437.50 was issued as serial bonds.

At the end of the year the amount of outstanding bonds was \$4,122,250, as bonds issued on the serial payment plan to the amount of \$481,687.50 had been paid. During the fiscal year \$66,493.75 in serial bonds has been paid.

The Metropolitan Parks Loan, Series II., Sinking Fund amounted on December 1, 1925, to \$1,367,193.39, an increase during the year of \$61,157.50.

The net debt on December 1, 1925, was \$2,755,056. 61, an increase of \$439,848.75.

CHARLES RIVER BASIN LOAN	
Charles River Basin Loan	\$4,500,000 00
Receipts added to loan	9,368 91
	<hr/>
	\$4,509,368 91
<i>Expenditures</i>	
For the period prior to December 1, 1925	4,472,862 22
	<hr/>
Balance December 1, 1925	\$36,506 69

The amount of the Charles River Basin Loan bonds issued at the end of the fiscal year was \$4,500,000, no bonds having been issued during the year. Of the total amount issued, \$4,125,000 were sinking fund bonds, and the remainder, amounting to \$375,000, was issued as serial bonds.

At the end of the year the amount of outstanding bonds was \$4,368,000, as bonds issued on the serial payment plan to the amount of \$132,000 had been paid. During the fiscal year \$10,000 in serial bonds has been paid.

The Charles River Basin Loan Sinking Fund amounted on December 1, 1925, to \$1,647,740.17, an increase during the year of \$90,609.86.

The net debt on December 1, 1925, was \$2,720,259.83, a decrease of \$100,609.86.



CHARLES RIVER BRIDGES LOAN		
Charles River Bridges Loan		\$1,825,000 00
<i>Expenditures</i>		
For the year ending November 30, 1925	\$408,435 83	
For the period prior to December 1, 1924	327,505 60	
		\$735,941 43
Balance December 1, 1925		\$1,089,058 57

During the fiscal year Charles River Bridges Loan notes were issued to the amount of \$1,800,000; \$800,000 were paid during the year, leaving the amount of outstanding notes \$1,000,000.

The net debt December 1, 1925, was \$1,000,000.

NORTH BEACON STREET BRIDGE LOAN		
North Beacon Street Bridge Loan		\$175,000 00
<i>Expenditures</i>		
For the period prior to December 1, 1925	174,853 50	
Balance December 1, 1925		\$146 50

NANTASKET BEACH LOAN		
Nantasket Beach Loan		\$705,881 50
<i>Expenditures</i>		
For the period prior to December 1, 1925	\$705,881 50	

MASSACHUSETTS AVENUE BRIDGE LOAN		
Chapter 442, Acts of 1924		\$600,000 00
<i>Expenditures</i>		
For the year ending November 30, 1925	\$133,583 37	
For the period prior to December 1, 1924	354,702 36	
		488,285 73
Balance December 1, 1925		\$111,714 27

NORTHERN TRAFFIC ROUTE LOAN		
Chapter 489, Acts of 1924		\$1,800,000 00
<i>Expenditures</i>		
For the year ending November 30, 1925	\$113,559 05	
For the period prior to December 1, 1924	5,023 56	
		118,582 61
Balance December 1, 1925		\$1,681,417 39

METROPOLITAN PARKS TRUST FUND		
Receipts for year ending November 30, 1925	\$103 71	
Receipts for the period prior to December 1, 1924	40,673 21	
		\$40,776 92
<i>Expenditures</i>		
For the period prior to December 1, 1925	38,106 50	
Balance December 1, 1925		\$2,670 42

EDWIN U. CURTIS MEMORIAL TRUST FUND		
Receipts for the year ending November 30, 1925	\$40 03	
Receipts for period prior to December 1, 1924	1,334 37	
		\$1,374 40

Maintenance

METROPOLITAN PARKS

	Appropriation, 1925	Expended, 1925	Balance December 1, 1925
Metropolitan Parks Maintenance Fund:			
General . . . . .	\$778,395 38	\$726,649 98	\$51,745 40
Special:			
Band concerts . . . . .	20,000 00	19,668 56	331 44
Clearing woods . . . . .	\$2,883 86		
Expended to December 1, 1924 . . . . .	694 72		
	2,189 14	677 85	1,511 29
Westerly Border Road, West Roxbury Parkway . . . . .	\$40,000 00		
Expended to December 1, 1924 . . . . .	28,129 59		
	11,870 41	6,229 03	5,641 38
Nahant Beach Playground . . . . .	\$5,000 00		
Expended to December 1, 1924 . . . . .	2,651 28		
	2,348 72	381 22	1,967 50
Improvement of land adjoining Alewife Brook . . . . .	\$5,500 00		
Expended to December 1, 1924 . . . . .	2,481 89		
	3,018 11	2,694 88	323 23
Eliot Circle, Revere St. Roadway . . . . .	\$90,000 00		
Expended to December 1, 1924 . . . . .	26,633 05		
	63,366 95	51,211 38	12,155 57
Electric Lighting System, Revere Beach Reconstruction roadway from Brookline Street to Massachusetts Avenue . . . . .	50,000 00	33,854 25	16,145 75
Acquiring land of Lawrence estate . . . . .	33,200 00	33,200 00	-
Investigation, Spring Street, Dedham . . . . .	160,000 00	160,000 00	-
	500 00	493 35	6 65
Metropolitan Parks Maintenance Fund, Boulevards:			
General . . . . .	421,000 00	392,271 88	28,728 12
Special:			
Blue Hill River Road . . . . .	75,000 00	-	75,000 00
Sidewalks, Blue Hills Parkway . . . . .	\$6,000 00		
Expended to December 1, 1924 . . . . .	1,006 88		
	4,993 12	734 16	4,258 96
Boulevard, Hyde Park District . . . . .	\$10,000 00		
Expended to December 1, 1924 . . . . .	8,499 37		
	1,500 63	1,487 23	13 40
Stoneham-Wakefield Parkway . . . . .	5,000 00	687 50	4,312 50
Installation electric lighting system . . . . .	50,000 00	33,348 50	16,651 50
Boulevard, Boston and Brookline . . . . .	222,000 00	1,853 94	220,146 06
Resurfacing boulevards and parkways . . . . .	200,000 00	170,070 94	29,929 06
Charles River Basin maintenance . . . . .	208,500 00	202,803 51	5,696 49
Nantasket Beach maintenance . . . . .	80,500 00	80,354 47	145 53
Wellington Bridge maintenance . . . . .	17,000 00	16,041 11	958 89
Bunker Hill maintenance . . . . .	10,500 00	9,537 48	962 52

METROPOLITAN PARKS EXPENSE FUND			
Receipts:			
For the year ending November 30, 1925 . . . . .		\$177,303 78	
For the period prior to December 1, 1924 . . . . .		2,636,352 53	
			\$2,813,656 31
Expenditures:			
For the year ending November 30, 1925 . . . . .		\$187,025 53	
For the period prior to December 1, 1924 . . . . .		2,328,512 71	
			2,515,538 24
Balance December 1, 1925 . . . . .			\$298,118 07
General Revenue			
Bunker Hill Monument:			
Receipts:			
For the year ending November 30, 1925 . . . . .		\$4,583 10	
For the period prior to December 1, 1924 . . . . .		12,097 80	
			\$16,680 90





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